

—

APEX PUBLIC SCHOOL
HOLIDAY HOMEWORK (2026 – 2027)
CLASS XII

PHYSICS:

Q. Make an investigatory project according to your roll numbers.

Roll no. 1 to 5

1. To study various factors on which the internal resistance/EMF of a cell depends.

Roll no. 6 to 10

2. To study the variations in current flowing in a circuit containing an LDR because of a variation in
 - (a) the power of the incandescent lamp, used to 'illuminate' the LDR (keeping all the lamps at a fixed distance).
 - (b) the distance of a incandescent lamp (of fixed power) used to 'illuminate' the LDR.

Roll no. 11 to 15

3. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle.

Roll no. 16 to 20

4. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self-designed transformer.

Roll no. 21 to 25

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.

Roll no. 26 to 30

6. To estimate the charge induced on each one of the two identical Styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law.

Roll no. 31 to 35

7. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency.

Roll no. 36 onwards

8. To study the earth's magnetic field using a compass needle -bar magnet by plotting magnetic field lines and tangent galvanometer.

CHEMISTRY:

Que 1 How will you bring following conversions?

- (a) But-1-ene to 1-iodobutane
- (b) Phenol to Salicylaldehyde
- (c) Propene to Propanol
- (d) Phenol to Benzoquinone
- (e) Benzyl Chloride to Benzyl Alcohol
- (f) Propene to Propan-2-ol
- (g) Ethyl Magnesium Bromide to Propan-1-ol
- (h) Phenol to Anisole
- (i) Aniline to Phenol
- (j) Aniline to Iodobenzene
- (k) Ethyl Chloride to Ethanal
- (l) Acetone to Propene
- (m) Ethanal to Propanone
- (n) Benzene to p-nitrobenzoic acid
- (o) Benzoic Acid to Benzaldehyde
- (p) Bromomethane to Ethanoic acid

(q) Acetaldehyde to But-2-enal

(r) Toluene to Benzoic Acid

Que 2 Account for following

(a) Sulphuric Acid is not used during the reaction of alcohols with KI

(b) Haloalkanes react with KCN to form alkyl cyanide as main product while with AgCN form isocyanide as main product.

(c) Grignard reagents should be made in anhydrous condition

(d) Dipole moment of chlorobenzene is lower than that of cyclohexyl chloride.

(e) Treatment of alkyl chloride in presence of aq KOH gives alcohol but in alcoholic KOH gives alkene.

(f) o-nitrophenol is more acidic than o-methoxyphenol

(g) OH group attached to benzene ring activates it toward electrophilic substitution reaction.

(h) Only one NH₂ group in semicarbazide participates in formation of semicarbazones.

(i) Oxidation of aldehyde is easier than ketone

(j) Cyclohexanone forms oxime in good yield but 2,2,6-trimethylcyclohexanone does not

(k) α-hydrogen in aldehyde and ketone are acidic in nature.

(l) Chloroform is stored under dark colored bottle.

(m) Benzoic acid does not undergo Friedel-Craft reactions.

Que 3. Arrange in the order of indicated property;

(a) Benzoic acid, 4-nitrobenzoic acid, 4-ethoxybenzoic acid, 2,4-dinitrobenzoic acid
{Acidity}

(b) RCl, ROH, ROR, RCHO, RCOOH (Boiling point)

(c) 2-Bromo-2-methylbutane, 1-Bromopentane, 2-Bromopentane {Reactivity towards S_N2}

Que 4. Write Short Note on following reactions

- (a) Frenkelstein Reaction
- (b) Swartz Reaction
- (c) SN1 vs SN2 reaction
- (d) Electrophilic Substitution reaction in Haloarene, Phenol, Carbonyl Compounds
- (e) Reimer Tiemann Reactions
- (f) Kolbe Reaction
- (g) Williamson ether synthesis
- (h) Sandmeyer Reactions
- (i) Elimination Reactions in haloalkanes and alcohols (detailed stepwise mechanism)
- (j) Markovnikov Addition and Anti Markovnikov addition
- (k) Etard Reaction
- (l) Rosenmund Reaction
- (m) Wolf Kishner Reduction
- (n) Clemmensen Reduction
- (o) Aldol Condensation Reaction vs Cannizzaro Reaction.
- (p) Hell Volhard Reactions.

Que 5. How will you differentiate between following pairs

- (a) Chloroethane and Chlorobenzene
- (b) Phenol and Ethanol
- (c) Propan-1-ol and Propan -2-ol
- (d) Benzaldehyde and Ethanal
- (e) Acetophenone and Ethanal
- (f) Acetophenone and Benzophenone
- (g) Phenol and Ethanoic Acid.

Que 6. Solve all unsolved intext and back exercise questions of chapter 1 Solution from NCERT.

Que 7. Complete all the experiments in your practical file done till last of may with complete readings and calculations involved.

Que 8. Prepare your Investigatory Project for evaluation of final Board Examination.

BIOLOGY:

Instructions

- Submit work in a neatly maintained Biology holiday homework file.
- Use colored headings and properly labelled diagrams.
- Mention name, class, section, and roll number on the cover page.

- Original and creative work will be appreciated.

I. Draw diagrams of:

- DNA packaging
- PCR technique
- Replication Fork
- Post Transcriptional Modifications
- General structure of antibody

II. Write short notes on:

- Human Genome project
- Translation
- DNA fingerprinting
- Enlist bacterial, viral and protozoan diseases along with their causal organisms
- RNA Interference
- Application of biotechnology in the field of medicine

III. Solve:

1. Initial Biological Oxygen Demand (BOD) of sewage water is 320 mg/L. After treatment, it reduces to 48 mg/L. Calculate percentage reduction in BOD.
2. A milk sample contains 2×10^6 Lactobacillus cells. After multiplication, population becomes 1.6×10^7 . By how many times did the population increase?
3. A compost pit contains 150 kg biodegradable waste. If microbes decompose 70% waste in one month, calculate undecomposed waste left.
4. A fermenter produces 2.5 kg antibiotic from 50 kg nutrient medium. Find the percentage yield.

5. A biogas plant produces 600 L of biogas daily. If methane constitutes 75% of the gas, calculate the volume of methane produced per day.
6. The BOD of untreated sewage is 350 mg/L. After secondary treatment, it becomes 35 mg/L. Calculate the percentage reduction.
7. A patient has 2×10^5 HIV particles per mL blood. If the number doubles after one cycle, calculate the final number of viral particles.
8. A cancerous cell divides into two every cycle. Starting from 64 cells, how many cells will be present after 3 cycles?
9. The distance between two consecutive base pairs in DNA is 0.34 nm
10. Calculate the length of a DNA molecule having 6000 base pairs.
11. A DNA molecule contains 120 adenine bases and 180 guanine bases. Calculate the total number of hydrogen bonds.
12. A DNA sample contains 30% adenine. Calculate the percentage of guanine.
13. A protein contains 150 amino acids. Calculate the minimum number of nucleotides required in mRNA to code for this protein.
14. A bacterial DNA molecule completes replication in 30 minutes. How many DNA molecules will be formed from one molecule after 3 rounds of replication?
15. A gene contains 1800 nitrogen bases. Only one strand participates in transcription. Calculate number of nucleotides in mRNA formed.
16. If the total length of DNA in a human cell is 2.2 m and chromosome packaging reduces it to $1/10000$ of its original length, calculate the packed DNA length.
17. In a double-stranded DNA molecule, guanine constitutes 18% of total bases. Calculate the percentage of: Cytosine, Adenine and Thymine.
18. In a DNA molecule, the ratio of adenine to guanine is 2:1. Find the percentage composition of all bases.
19. A ds DNA sequence has 18% guanine, what percentage is adenine?
20. A DNA molecule containing only $N^{15}N^{15}$ strands is transferred to $N^{14}N^{14}$ medium and allowed to replicate once. How many hybrid DNA molecules will be formed?
21. A bacterial cell with one hybrid DNA molecule undergoes second replication in $N^{14}N^{14}$ medium.
22. Calculate:
 - Total DNA molecules formed
 - Number of hybrid DNA molecules
 - Number of light DNA molecules
23. A culture initially containing heavy DNA is grown for 4 generations in N^{14} medium. Calculate percentage of hybrid DNA molecules.
24. Calculate total histone molecules present in 250 nucleosomes.
25. One DNA molecule undergoes 5 cycles of PCR. Calculate the number of DNA molecules formed.

26. Calculate the number of DNA molecules formed after 20 PCR cycles starting from one DNA molecule.
27. A scientist starts PCR with 8 DNA molecules. After 6 cycles, calculate total DNA molecules formed.

IV. Make an investigatory project according to topics already shared in the class room

COMPUTER SCIENCE:

Section A: DBMS (SQL)

1. Differentiate between: Primary Key and Candidate Key; WHERE clause and HAVING clause.
2. Write SQL commands to create a STUDENT table with fields AdmNo, Name, Class, Stream, Marks and set AdmNo as Primary Key.
3. Consider the following table:

RollNo	Name	Stream	Percentage
101	Aarav	Science	91
102	Mehak	Commerce	85
103	Rohan	Science	78

- a) Display all student names and percentages.
- b) Display records of students belonging to Science stream.
- c) Display details of students scoring more than 80 marks.
- d) Increase percentage of all students by 5.
- e) Delete the record of student whose RollNo is 103.
4. Explain ORDER BY, GROUP BY and DISTINCT with examples.
5. Write SQL queries using COUNT(), SUM(), AVG(), MAX(), MIN().
6. Differentiate between DELETE and DROP; CHAR and VARCHAR.
7. Write queries using AND, OR, NOT and LIKE operators.
8. Explain Referential Integrity, Foreign Key and Null Values.
9. Display names starting with A, salary ranges and descending order records.
10. Explain joins with examples.

Section B: Python Programming

1. Write a Python Program to display largest and smallest among 10 numbers.
2. Write a Python Program using functions to find factorial and check prime number.
3. Write a Python Program to count vowels and consonants in a string.
4. Write a Python Program using lists to display even numbers.
5. Write a Python Program to count words and lines in a text file.
6. Write a Python program to print a pyramid triangle pattern using asterisk (*) symbols.
7. Write a Python program to print Fibonacci series up to n terms.
8. Write a Python program to print an inverted triangle pattern using asterisk (*) symbols.
9. Write a Python program to check whether a number is even or odd.
10. Write a Python program to display the names in uppercase of those books whose names start with a consonant.
11. Write a Python program that prints the count of occurrences of searched word 'SCARCE' in the string.
12. Write a Python program that accepts a list of numbers and a numeric value by which all elements of the list are shifted to left.
13. Write a Python program to calculate the length of a string entered by the user.
14. Write a Python program to display the sum of all items in a list.
15. Write a Python program to demonstrate string slicing.
16. Write a Python program to create and display a tuple.
17. Write a Python program to perform tuple slicing.
18. Write a Python program to find the maximum value in a tuple.
19. Write a Python program to sort elements of a tuple.
20. Write a Python program to create and display a dictionary.
21. Write a Python program to iterate through a dictionary.
22. Write a Python program to update elements in a dictionary.
23. Write a Python program to store tuple values inside a dictionary.
24. Write a Python program to access tuple elements stored in a dictionary.

Section C: Python Interfacing with SQL

1. Program to create database connection using MySQL Connector.
2. Program to create EMPLOYEE table and insert 5 records.
3. Program to display all records using cursor object.
4. Program to search employee details using employee ID.
5. Program to update employee salary.

Section D: MySQL Practical Questions

Database Name: SchoolDB

Table Name: Student

Create Database and Table

Q1. Create a database named SchoolDB.

Q2. Select the database for use.

Q3. Create a table named Student with the following structure:

RollNo. INT

Name. VARCHAR(30)

Class. VARCHAR(10)

Marks. INT(10)

Insert Records

Q4. Insert the following records into the Student table.

DML Commands

Q5. Display all records from the table.

Q6. Update the marks of student Riya to 90.

Q7. Delete the record of student having RollNo 103.

SELECT Command Practice Questions

Q8. Display only the names of all students.

Q9. Display the names and marks of students.

Q10. Display details of students who belong to Delhi.

Q11. Display students scoring more than 85 marks.

Q12. Display details of students whose marks are between 80 and 95.

Q13. Display names of students in ascending order.

Q14. Display names and marks in descending order of marks.

Q15. Count the total number of students.

Q16. Display the highest marks scored by a student.

Q17. Display the average marks of students.

DDL Commands

Q18. Add a new column PhoneNo in the table.

Q19. Remove the column PhoneNo from the table.

Q20. Delete the complete table. **SQL**

Joins

Consider the following two tables:

Table1: Employee

EmpID	EmpName	DeptID	Salary
101	Aarav	D1	50000
102	Riya	D2	45000
103	Karan	D1	52000
104	Mehak	D3	48000

Table 2: Department

DeptID	DeptName	Location
D1	HR	Delhi
D2	Sales	Mumbai
D3	IT	Bengaluru
D4	Finance	Jaipur

Questions

Q1. Write an SQL query to display all details of employees along with their department details using NATURAL JOIN.

Q2. Write an SQL query to display all possible combinations of records from Employee and Department tables using Cartesian Product.

Q3. Write an SQL query to display employee name, department name, and salary where matching DeptID is present in both tables using INNER JOIN.

Q4. Write an SQL query to display all records from Employee table and matching records from Department table using LEFT OUTER JOIN.

Q5. Write an SQL query to display all records from Department table and matching records from Employee table using RIGHT OUTER JOIN.

Submission Instructions

1. Complete written work neatly in notebook.
2. Project should include printouts/screenshot.
3. Maintain proper formatting and indentation.

INFORMATION PRACTICES:

Project Based Learning

Project Work (using concepts learned in class XI and XII)

1. The aim of the class project is to create tangible and useful IT application. The learner may identify a real-world problem by exploring the environment.
2. The learner can take data stored in csv or database file and analyze using Python libraries and generate appropriate charts to visualize.
3. Learners should avoid plagiarism and violation of copyright issues while working on Projects
4. Any resources (data, image etc.) used in the project must be suitably referenced.
5. The project can be done individually or in groups of 2.

Example

Project -Automating a Books Donation Camp

Description

Realising the importance of Reduce, Reuse and Recycle, the Bookworm club every year organises a Book Donation Camp.

The Book Donation camp collects books and notebooks.

The volunteers assess the condition of the books and categorise them as Fit, Needs mending, or Unfit. The unfit books' pages are used to create paper bags and envelopes.

The other categories of books are resold at half the price. They accept notebooks that have pages left in them. The pages are torn from the notebooks, and are attractively bound to create a new notebook and sold.

They create a variety of recycled objects and sell them. They want to create a software for this purpose and store details about the camp. To be able to efficiently store, retrieve and visualise data, they need to implement the following using Pandas.

Specification

The details of collections are stored in a CSV file with column headings as Item category, Item ID, Item name, Item type, Condition.

If the Item Category is Book, then the Item Type can be either Academic or Non Academic, and Item Id shall be prefixed with a 'B'. In case of Academic, class shall be entered.

If the Item Category is Notebook then the Item can be Single line,

Four Line, Five Line, and Item Id shall be prefixed with an 'N'. Condition can only be Fit, Needs Mending or Unfit.

After the items are refurbished, the data are stored in another CSV file containing the following

column headings: Item id, Item name, Item Category, Quantity, Price.

Item Category can be Paper bags, Notebook, Books. In case of books Class is also to be entered.

Another CSV file to store orders is created that stores Item Category, Item name, Quantity and Price. In case of an order, the refurbished CSV shall update the quantity.

To ensure effective decision making, it is required that different data are plotted using appropriate plots to show sales, items refurbished, and items collected.

List of suggested projects.

1. Student Record Management System
2. Road Accident Survival Analysis
3. ODI Cricket Data Analysis
4. Book Rental Shop
5. Grocery Shop Management System
6. Bank Management System

OR

Any other topic of your choice

Important: The project plan along with crude code will be submitted and demonstrated in the computer lab when school will reopen after the summer break.

ENGLISH:

Poster Display Activity:

Make a Poster on any one of the topics given below:

- **Shadows of Subjugation**
Visual Concept: A split board featuring bold, embroidered tigers leaping across one side, contrasting with heavy, dark silhouettes of wedding bands and cages on the other.
- **Chronotopes & Escape Hatches**
Visual Concept: A vintage 19th-century railway station platform complete with retro clocks, sepia-toned newspaper cutouts, and illusions of a third dimension.
- **Conquering the Abyss**
Visual Concept: A deep, dark blue watercolor backdrop transitioning into bright, clear sunlight, mapping a timeline of personal triumph over fear.

- **Chronoscopic Earth: The Polar Chronicles**

Visual Concept: A dramatic visual contrast of the Arctic and Antarctic—one half showing pristine icy glaciers and the other half showing cracking ice shelves and distressed polar wildlife.

- **Code Green: Shielding the Wilds**

Visual Concept: Designed like a legal courtroom ledger or a forest ranger's logbook, featuring profiles of critically endangered species behind "bars" made of environmental law text.

Guidelines for Execution:

- All selected topics must be presented as a combination of expressive posters and compelling slogans.
- The artwork must be meticulously designed on an A3 size sheet.
- To ensure structural stability and a neat presentation, the completed A3 sheet must be securely pasted onto a sturdy cardboard backing.
- The entire assembly must be finished as a functional wall hanging (equipped with ribbons, twine, or hooks), ready for immediate installation on the display galleries.

Project File:

Dear Students,

You are also required to prepare one individual project based on CBSE's ASL (Assessment of Speaking and Listening) component. Choose any one topic from the list below:

- Native Tongues: The Root of Identity
- Stolen Youth: The Tragedy of Lost Childhoods
- Facing Shadows: Conquering Deep-Seated Fears
- The Ripple Effect: Transforming Lives Through Empathy
- The Mahatma's Path: Modern Relevance of Gandhian Principles
- The Art of Dialogue: Mastering the Interview
- The Power of the Podium: Becoming an Eloquent Orator
- Twilight Years: The Ethics of Eldercare
- Breaking the Silence: Gender-Based Violence in India
- Melting Horizons: Polar Insights into Climate Change
- Defying Odds: Narratives of Overcoming Disability
- Knowledge as Liberation: Education and Empowerment
- Unconditional Grace: The Essence of Motherhood
- Guardians of the Wild: Wildlife Laws and Endangered Species
- Boundless Compassion: Stories of Transnational Humanism

Important Instructions:

- Submission Date: 1st July 2025 (Monday)
- No Late Submissions will be accepted or marked.
- Project Weightage: 10 Marks (5 Marks for the Project File + 5 Marks for Viva-Voce)
- Ensure neat presentation, relevant visuals, and structured content.
- All written work must be in your own words.
- Viva will be conducted once school reopens.

School Magazine Preparation:

Write poems, articles, stories, and speeches for the school magazine.

Wishing You All a Happy, Safe, and Enlightening Holiday!

Explore. Express. Excel.

MATHS:

LAB MANUAL ACTIVITY NO.

1. verify that the relation R in the set L of all lines in a plane, defined by $R = \{(l, m) : l \perp m\}$ is symmetric but neither reflexive nor transitive.

2.To verify that the relation R in the set L of all lines in a plane, defined by $R = \{(l, m) : l \parallel m\}$ is an equivalence relation.

3.To demonstrate a function which is not one-one but is onto.

4. To draw the graph of $-\sin x$, using the graph of $\sin x$ and demonstrate the concept of mirror reflection (about the line $y = x$).

5.To explore the principal value of the function \sin^{-1} using a unit circle.

6.To sketch the graphs of a^x and $\log_a x$, $a > 0$, $a \neq 1$ and to examine that they are mirror images of each other.

7. To establish a relationship between common logarithm (to the base 10) and natural logarithm (to the base e) of the number x .

8. To find analytically the limit of a function $f(x)$ at $x = c$ and also to check the continuity of the function at that point.
9. To verify that for a function f to be continuous at given point $x=0$ (ϵ is arbitrarily small provided δ sufficiently small).
10. To demonstrate a function which is one-one but not onto.
 - All the Activities should be completed in your school lab manual.
 - Every student should form one Working model on Topic
 1. Relation and Function
 2. Derivatives and Application of Derivative
 3. Matrices and Determinants

Complete last three Year CBSE Board Questions of Inverse Trigonometry, Matrices and Determinants.

BUSINESS STUDIES:

Part A – Business Around You (Activity Based)

“Observe & Learn”

Visit any one business organisation/shop/showroom/restaurant/start-up near your home and prepare a short report (2–3 pages) covering the following points:

Name and type of business

Products/services offered

Different management activities you observed

Any one principle of management visible in the business

External factors affecting the business (competition, government rules, technology, customer preference, etc.)

Your suggestions for improvement

 Attach 2–3 photographs/drawings related to the visit.

Part B – Case Study Practice


Students are required to understand and solve at least 10 case studies from each completed chapter in their Business Studies notebook.

Chapters:

Nature and Significance of Management

Principles of Management

Business Environment

 Instructions:

Read each case study carefully.

Identify concepts and principles correctly.

Write answers in a proper format with headings and relevant points.

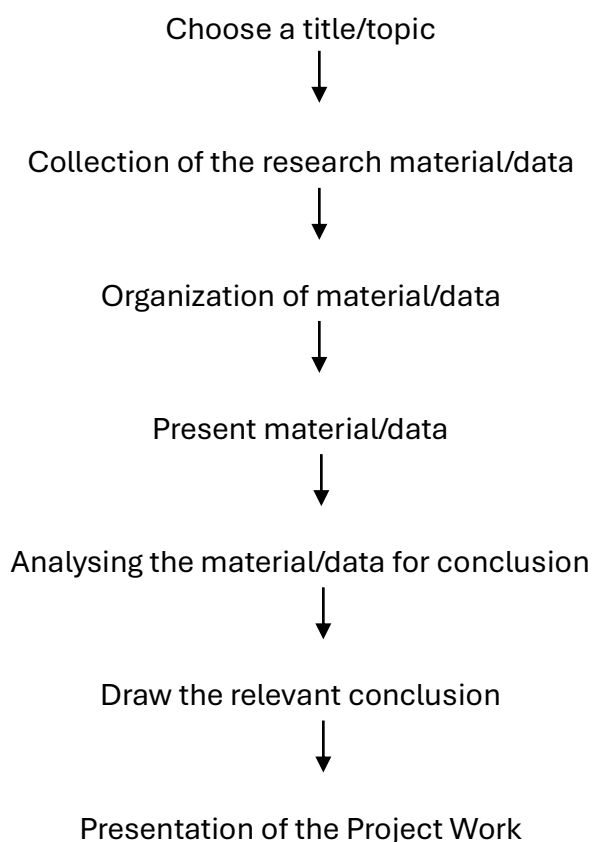
Maintain neat presentation and proper numbering in the notebook.

ECONOMICS:

S.NO.	TOPICS	ROLL NO XII-C&D	ROLL NO XII-E&F
1.	Organic Farming – Back to the Nature Self-help group	1, 8, 15, 22	1, 21, 39
2.	Waste Management in India – Need of the hour	2, 9, 16, 23	2, 22, 40
3.	Government Budget & its Components	3, 10, 17, 24	3, 25
4.	Alternate fuel – types and importance	4, 11, 18, 25	7, 31
5.	Role of RBI in Control of Credit	5, 12, 19, 26	11, 32
6.	Livestock – Backbone of Rural India	6, 13, 20	13, 34
7.	Self-help group	7, 14, 21	16, 36

Scope of the project:

Learners may work upon the following lines as a suggested flow chart:



Expected Checklist:

- Introduction of topic/title
- Identifying the causes, consequences and/or remedies
- Various stakeholders and effect on each of them
- Advantages and disadvantages of situations or issues identified
- Short-term and long-term implications of economic strategies suggested in the course of research
- Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is succinct and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

ACCOUNTANCY:

FUNDAMENTALS OF PARTNERSHIP

1. X and Y are partners in the firm. X has given a Loan of ₹ 1, 20,000 on 1st October 2021. The profit of the firm at the end of the year was ₹.2,00,000. The Interest on Loan is paid on 10th April 2022. Record necessary Journal entry of the above transactions. Also show the profit and Loss Appropriation Account.

(Learning Objective: Interest on Partner's Loan)

2. A present the following Profit and Loss Appropriation Account to his partner B for the year ended 31st March ,2017

Particulars	Amount ₹	Particulars	Amount ₹
To Salary:		By Profit & Loss A/c	40,200
A 10,000			
B 8,000			
_____	18,000		
To Interest on Capital:			
A 3,000			
B 2,000			
_____	5,000		
To Interest on A's Loan@12%	1200		
To Profit transfer to capital :			
A----3/4	16,000		
12,000			
B --- 1 / 4	40,200		
4,000			
_____			40,200

B feels that he is not fairly treated by A. There is no partnership deed.

You are required to prepare Profit and Loss Appropriation account as per the provision of partnership Act,1932.

(Learning Objective: Partnership Deed and P & L Appropriation A/C)

3. A and B are partners sharing profit and Loss equally. From the information given below show the treatment of the following if

(a) If capital is fixed

(b) If capital is fluctuating

Particulars	A ₹	B ₹
Capital as on 1.4.2021	1,50,000	2,00,000
Drawings	30,000	20,000
Interest on Drawings	2,000	1,500
Interest On Capital	7,500	10,000
Commission	4,000	-----
Profit	50000	50000

(Learning Objective: Fixed and Fluctuating Capital)

4. X and Y are partners in a firm sharing profits in the ratio of 2:1. Their capitals were ₹ 3,00,000 and ₹ 2,00,000 respectively. As per the partnership deed, Interest on Capital was entitled @6% p.a. Pass the necessary Journal entry for Interest On Capital of the following cases:

(i) If profit for the year was ₹ 40,000

(ii) If profit for the year was ₹.20,000

(iii) If Loss for the year was ₹ 10,000

If profit for the year was ₹.40,000 as a Charge against profit.

(Learning Objective: Profit fall short to pay IOC)

5. On March 31st, 2022 after close of books of accounts, the capital accounts of A and B stood at ₹ .60,000 and ₹ 80,000 respectively. The Profit for the years ₹ 36,000 was distributed equally. The Drawings made by A were ₹ 2,000 and by B ₹ 4,000 during the year. As per partnership deed, interest on capital was entitled @10%p.a. Calculate the Interest on Capital of A and B.

(Learning Objective: When closing capital given to calculate IOC)

6. Arun and Barun are partners in a firm. Their capital accounts showed the balance on 1st April 2021 as ₹ 2,00,000 and ₹ 1,50,000 respectively. During the year 2021-22, Arun introduced additional capital of Rs.10, 000 on August 1,2021 and Barun withdraw capital of ₹ .30,000 on October 1,2021.

Interest on capital is allowed @10 % p.a. Calculate Interest on capital.

(Learning Objective: Capital introduced and withdrawn & IOC)

7. A, B and C are partners in a firm .A is entitled a commission of 10% ,B and C are partners in a firm .A is entitled a commission of 10% of the Net Profit before charging his commission .B is entitled a commission of the net profit after charging his commission and C is entitled a commission on the Net Profit after charging all commission including his commission.Net profit for the year ending 31st March 2021 before charging any commission is ₹ .2,20,000. Calculate Partners commission.

(Learning Objective: Commission on Net profit Before & After)

8. Calculate Interest on Drawings @6% p.a. under following cases:

- (i) A withdraw ₹.120,000
- (ii) A withdraw ₹ 4,000 at the beginning of each month.
- (iii) A withdraw ₹.3,000 at the middle of each month
- (iv) A withdraw ₹ 2,000 at the end of each month
- (v) A withdraw ₹ 4,000 at the beginning of each quarter
- (vi) A withdraw ₹ .3000 at the mid of each quarter.
- (vii) A withdraw ₹.12,000 at the end of each quarter.
- (viii) A withdraw ₹ .1000 at the beginning of each month for six months.
- (ix) A withdraw ₹.2,000 at the mid of each month for six months.
- (x) A withdraw ₹.12,000 at the end of each month for six months.
- (xi) A withdraw (₹)

1 st June 2021	1,000
1 st August 2021	750
30 th September 2021	1250

1 st December 2021	500
1 st February 2022	500

(Learning Objective: Calculation of Interest on Drawings)

9. R, S & T are partners with capital of ₹.3,00,000; ₹.2,50,000 and ₹.4,00,000 respectively on 1st April 2021. Their Partnership deed provides:
- (i) The 10% of Net Profit Transfer to General Reserve.
 - (ii) Partners are allowed 5% Interest on capital and are to be charged 6% p.a. interest on Drawings.
 - (iii) T is entitled for a Salary of ₹.50,000 and S a commission @10 % on the divisible profit and his commission.
- During the year each partner has withdrawn ₹ 30,000. On 1st October Z has given a loan of ₹ 6, 00,000. The Net profit of the firm is ₹ 6, 00,000. Prepare Profit and Loss Appropriation Account and Partners Capital Account.

(Learning Objective: Comprehensive Problem)

10. Aryan and Binod are partners having fixed capital of Rs.2,00,000 and Rs, 3,00,000 respectively. On 31st March 2022 after finalization of Final accounts it was subsequently found that Interest on Capital@10% being omitted to allow. The Net Profit was Rs.2,20,000.

Record an adjustment entry to the above effect.

(Learning Objective: Past adjustment with single error)

11. Kiran and Rao were partners in a firm. Their Fixed capital was: Kiran Rs.9,00,000 and Rao .4,00, 000. The profit for the year Rs. 2,78,000 was distributed equally without considering the following provision of the Partnership deed:
- (a) Interest on Capital @9% p.a.
 - (b) Kiran's Salary Rs.50,000 per year and Rao's Salary Rs.3,000 per month.
- Record adjustment entry.

(c) The profit-Sharing Ratio should be 7:3

(Learning Objective: Past adjustments with multiple errors)

12. P, Q and R are partners in a firm, sharing profits in the ratio of 5:3:2. Their Fixed capital were ₹ 3,00,000 : ₹ 2,00,000 and ₹ 1,00,000 respectively. For the year 31st March 2022, Interest on Capital was credited to their capital accounts @8% instead of 10% p.a. Showing your working clearly record necessary adjustment entry.

(Learning Objective: Past adjustment: Error of commission)

13. A, B and C were Partner in the firm. On 1st April 2022, their capitals stood at ₹ 5,00,000; ₹ 2,50,000; ₹ 2,50,000 respectively. As per the provision of the partnership deed:

- (i) C was entitled for a salary of ₹ 5,000 per month.
 - (ii) A was entitled for a commission of ₹ 80,000.
 - (iii) Partners were entitled to interest on capital at 6% p.a.
 - (iv) Partners will share profits in the ratio of their capital
- Net Profit for the year ended on 31st March 2022 was ₹ 3,00,000 which was divided equally, without providing for the above provision. Showing your working clearly, Pass necessary adjustment entry

(Learning Objective: Past adjustment: When PSR also applied wrong)

14. A, B and C are three partners sharing profit and Loss Equally. A has given a guarantee of minimum profit ₹ 50,000 every year. The Net Profit for the year ending 31st March 2022 was ₹ 1,20,000. Show the distribution of profit.

(Learning Objective: Guarantee of Profit)

15. Moli, Bholi and Raj were partners in a firm sharing profits and losses in the ratio of 3:3:4. Their partnership deed provided for the following:
- (i) Interest on capital @5% p.a.
 - (ii) Interest on Drawings @12% p.a.

- (iii) Interest on Partner's loan @6%p.a.
- (iv) Moli was allowed an annual salary of ₹ 4, 000. Bhola was allowed a commission of 10% of net profit as shown by Profit and Loss Account and Raj was guaranteed a profit of ₹.1,50,000 after making all the adjustments as per partnership deed.

Their fixed capital was Moli: ₹.5,00,000; Bhola: ₹. 8,00,000 and Raj: ₹.4,00,000. On 1st April 2021 Bhola extended a Loan of ₹.1, 00,000 to the firm. The Net Profit of the firm for the year ended 31st March 2022 before interest on Bhola 's Loan was ₹.3,06,000.

Prepare Profit and Loss Appropriation Account, Partners' Capital Account and Current Accounts assuming that Bhola withdrew ₹.5,000 at the end of each Month, Moli withdrew ₹.10,000 at the end of each quarter and Raj withdrew ₹ 40,000 at the end of each half year.

(Learning Objective: Comprehensive question with Guarantee of Profit)

16. Ajay, Binay and Chetan were partners sharing profits in the ratio of 3:3:2. The partnership deed provides for the following:

- (i) Salary of ₹ .2, 000 per quarter to Ajay and Binay.
- (ii) Chetan was entitled to a commission of ₹ 8, 000.
- (iii) Binay was guaranteed a profit of ₹ 50, 000 p.a.

The profit of the firm for the year ended 31st March 2022 was ₹.1, 50,000 which was distributed among Ajay, Binay and Chetan in the ratio of 2:2:1 without taking into consideration of Partnership deed. Pass necessary Adjustment entry.

(Learning Objective: Past Adjustment with Guarantee of Profit)

VALUATION OF GOODWILL}

METHOD: SIMPLE AVERAGE PROFIT METHOD

1. Goodwill of the firm is valued at two years' purchase of the average profit of 3 years. The profit of the last 3 years were ` 22, 000; ` 10, 000; ` 5000 (loss)
Calculate Value of Goodwill.
2. Goodwill of the firm is valued at two years' purchase of the average profit of 4 years. The profit of the last 4 years were ` 22, 000; ` 10, 000; ` 10, 000; ` 15, 000. There was an abnormal loss of ` 5, 000.
Calculate Value of Goodwill.
3. Arvind purchases the business of Kirpa on 1st April 2021. The profit of Past three years earned by Kirpa are as under:

2019 - ` 45, 000 (Including Rs.7, 000 profit from sale of Assets)

2020 - ` 50,000 (including Goods lost due to fire Rs.8, 000)

2021 - ` 48,000

Calculate the value of goodwill of the firm based on 2 years' purchase of average profit of last three years.

METHOD: WEIGHTED AVERAGE PROFIT METHOD

4. Goodwill of the firm is valued at two years' purchase of the weighted average profit of 3 years. The profit of the last 3 years were ` 25, 000; ` 15, 000; ` 5,000
Calculate Value of Goodwill.

METHOD: SUPER NORMAL PROFIT METHOD

5. The total capital of the firm of Sonam , Geeta & Mohni is ` 1,00,000 and the market rate of return is 15%. The net profit for the last 3 years were ` 30,000 ; ` 36,000 and ` 42,000. Goodwill is to be valued at 2 years' purchase of the last years' super profits.
Calculate the Goodwill of the firm. {CBSE-2017(compt.)}

6. Average profit earned by a firm is 1,00,000 which includes undervaluation of stock of 40,000 on an average basis . The capital invested in the business is 6,30,000 and the normal rate of return is 5 % . Calculate goodwill of the firm on the basis of 5 times the super profit. (AI 2015)
7. On 1st April 2020, A firm had assets of 1, 00,000 excluding stock of 20,000. The current liabilities were 10,000 and the balance constituted Partner's Capital Accounts. If the normal rate of return is 8%, the Goodwill of the firm is valued of 60000 at four years purchase of super profit, find the actual profits of the firm.(CBSE sample paper)

METHOD: CAPITALISATION METHOD

(A)CAPITALISATION OF AVERAGE PROFIT

8. Average profit of firm during last few years is 3, 00,000. In similar business, the normal rate of return is 15% of the capital employed. The assets were 17, 00,000 and its liabilities were 2, 00,000.

Calculate the goodwill of the firm by Capitalisation of average profit. (CBSE 2019)

(B)CAPITALISATION OF SUPER PROFIT

9. Average profit of a firm during last few years is 1,50,000 . In similar business, the normal rate of return is 10% of the capital employed. Calculate the value of goodwill by Capitalisation of super profit method if super profit the firm are 50,000. CBSE 2020(C)

Miscellaneous Question:

From the following information , Calculate value of goodwill of the firm:

(a) Capital Employed 12,00,000

(b) Net profit of the firm

31st March 2019 ----- 4, 00,000; 31st March 2020----- 3,60,,000 ; 31st March 2021—
3,20,000

(c) Normal Rate of return in the market is 10%.

(d) Assets of the firm is 14,00,000 whereas partners' capital is 12,00,000 and outside Liabilities 2,00,000.

Calculate Goodwill:

- i. At three years' purchase of Average Profit
- ii. At three years' purchase of Super Profit.
- iii. On the basis of Capitalisation of Average Profit.
- iv. On the basis of Capitalisation of Super Profit.

{Change in profit sharing Ratio}

1. Reena, Sunita and Monu are partners sharing profit and losses in the ratio of 3:2:1. From 1st April ,2015 they decided to share future profits and losses in the ratio of 1:1:1. Calculate sacrifice or gain share of partners.
2. Manoj, Geet and Pankaj are three partners sharing profit and loss equally. On 1st April 2018,they decided to share future profit and losses in the ratio of 5:3:2. Calculate sacrificing ratio.
3. Ramesh and Jatin are equal partners. They decided to change the profit-sharing ratio to 3:2 in future. Calculate sacrifice and gain share.
4. Amar, Beena and Chatnya are partners sharing profit and loss equally. They decide that in future,Chatnya will get 1/5th share in profit and remaining will be shared by Amar and Beena equally. On the day of change, Firm's goodwill is valued at ₹ 6, 00,000. Give journal entries arising on account of change in profit sharing ratio.
5. Kumar, Gupta and Kavita are partners in a firm sharing profit and losses equally. The firm was engaged in the storage and distribution of canned juice and its godowns were located at three different places in the city. Each godown was being managed individually by Kumar, Gupta and Kavita. Because of increase in Business activities at the go downs managed by Gupta, He had to devote more time. Gupta demanded that his shares in the profit of the firm be increased, to which Kumar and Kavita agreed. The new profit-sharing ratio was agreed to be 1:2:1. For this purpose the goodwill of the firm was valued at two years purchase of the average profits of last five years. The profit of last five years were as follows:

I: ₹ 4,00,000; II: ₹ 4,80,000; III: ₹7,33,000 : IV(LOSS) ₹33,000;

V: ₹ 2,20,000.

You are required to:

- (i) Calculate the goodwill of the firm.
- (ii) Pass necessary journal entries for the treatment of goodwill on change in profit sharing ratio of Kumar, Gupta and Kavita.

6. A,B and C are three partners sharing profit and losses in the ratio of 3:2:1. On 1st April 2018 they decided to change the ratio into 1:1:1. The profit and loss account (credit) balance appears in the books amounting to ₹ 30,000.

Record necessary entry if:

- (i) Partners don't want to distribute the R&S.
- (ii) Partners want to distribute the amount of R&S.

7. A, B and C are partners sharing profits in the ratio of 2:2:1. On 1.4.2018 they decided to share the profit in the ratio of 2:1:1. On that date following balances were appearing in the Balance sheet:

(₹)	
General Reserve	57,000
Deferred Revenue Expenditure	50,000
Debit Balance in Profit & loss A/C	25,000

Without distributing the above items among partners, it was decided to pass an adjustment entry.

8. Joyti, Amar and Disha are partners sharing profits in the ratio of 2:2:1. They decided to share future profits in the ratio of 3:2:1 with effect from 1st April 2018. An extract of their Balance sheet as at 31st March 2018 is as under:

Liabilities	Amount ₹	Assets	Amount ₹
Workmen compensation fund	60,000	Investment (at cost)	2,60,000
Investment	25,000		
Fluctuation fund			

Show the journal entries in the following alternative cases:

- (i) If no adjustment is given.
- (ii) If claim for compensation is estimated ₹ 60,000.
- (iii) If claim for compensation is admitted ₹ 20,000.
- (iv) If claim for compensation is admitted ₹ 90,000.
- (v) If market value of investment is ₹ 2,20,000.

(vi) If market value of investment is ₹ 3,00,000.

9. Ashok, Bhim and Chetan were partners in a firm sharing profits in the ratio of 3:2:1. Their Balance Sheet as on 31st March 2015 was as follows:

Assets	Amount ₹	Liabilities	Amount ₹
Creditors	1,00,000	Land	1,00,000
Bills payable	40,000	Building	1,00,000
General Reserve	60,000	Plant	2,00,000
Capital Accounts:		Stock	80,000
Ashok 2,00,000		Debtor	60,000
Bhim 1,00,000		Bank	10,000
Chetan <u>50,000</u>	3,50,000		
	5,50,000		5,50,000

Ashok, Bhim and Chetan decided to share the future profits equally *w.e.f.* 1st April, 2015. For this it was agreed that:

- Goodwill of the firm be valued at ₹ 3, 00,000.
- Land be revalued at ₹ 1, 60,000 and building be depreciated by 6%.
- Creditors of ₹ 12,000 were not likely to be claimed and hence to be written off.
- Partners want to show the revised value of Assets and Liabilities in the books.

Prepare Revaluation account, Capital accounts of partners and revised Balance sheet.

10. R. S and T are partners sharing profit and losses in the ratio of 5:3:2. Their Balance Sheet as at 31st March 2024 was as follows:

Liabilities	₹	Assets	₹
Sundry Creditors	1,90,000	Bank Balance	2,00,000
General Reserves	1,10,000	Sundry Debtors	1,10,000
Capital A/cs		Less: Provision for D/D	<u>10,000</u>
R	3,00,000	Stock	2,00,000
S	1,80,000	Furniture	50,000
T	<u>1,20,000</u>	Computers	3,00,000
	9,00,000		9,00,000

Profit Sharing Ratio among the partners was agreed to be 2:2:1 w.e.f. 1st April 2024. They agreed to the followings:

- (i) Stock to be increased to 2,20,000.
- (ii) Provision for doubtful Debts to be reduced by 2,000.
- (iii) Furniture to be reduced by 20 %.
- (iv) Computers to be reduced to 2,70,000.
- (v) Goodwill of the firm is valued at 1,00,000.

The partners decided to show the Assets, liabilities, General Reserve and Profit & Loss Account at the same values in the Balance Sheet of the new firm.

Pass an Adjustment entry giving the effect to the above arrangement and prepare Balance Sheet after adjustments.

NOTE: Complete the given assignment in a separate Hoiiday Homework notebook.

SOCIOLOGY:

"The function of sociology, as of every science, is to reveal that which is hidden." - Pierre Bourdieu

Prepare and complete your sociology project according to your individual topic, following these instructions:

1. Write the project in your own handwriting.
2. Add pictures, photographs, and press releases wherever necessary.
3. Number each page.
4. Follow this sequence:
 - Cover page
 - Acknowledgement
 - Index
 - Introduction
 - Statement of Purpose
 - Objectives
 - Hypothesis
 - Methodology
 - Collection and Analysis of Data
 - Limitation
 - Conclusion
 - Bibliography

Ensure each heading starts on a fresh page and maintains the given sequence.

Additional Guidelines:

- The project should be in your handwriting.
- Add creativity to the project.
- Include pictures and handwork where needed (refer to Chapter 7, Book 1 for assistance).

Note: No binding is required now. Final binding will be done after verification by the subject teacher after the summer break.

Notebook Work

Complete your sociology notebook with all pending work.

Revision for PA I

Revise the syllabus of PA thoroughly and prepare for the PA I exam.

HISTORY:

GENERAL GUIDELINES

Steps involved in the conduct of the project: Students may work upon the following lines as suggested:

- Choose a Title/Topic
- Need of the Study, Objective of the Study
- Hypothesis
- Content -Timeline, Maps, Mind maps, Pictures, etc. (Organization of Material/ Data)

- Analysing the Material/Data for Conclusion
- Draw the Relevant Conclusion
- Bibliography

Expected Checklist for the Project Work:

- Introduction of topic/ title
- Identifying the causes, events, consequences and/or remedies
- Various stakeholders and effect on each of them
- Advantages and disadvantages of situations or issues identified
- Short-term and long-term implications of strategies suggested during research
- Validity, reliability, appropriateness, and relevance of data used for research work and for

Presentation in the project file

- Presentation and writing that is succinct and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

FEW SUGGESTIVE TOPICS FOR CLASS XII PROJECTS

1. The Indus Valley Civilization-Archaeological Excavations and New Perspectives (ROLL NO – 1, 2,)
2. The History and Legacy of Mauryan Empire (ROLL NO - 3, 4)
3. “Mahabharat”- The Great Epic of India (ROLL NO -5, 6)
4. The History and Culture of the Vedic period (ROLL NO -7 ,8)
5. Buddha Charita(ROLL NO -9, 10)
6. Bhakti Movement- Multiple Interpretations and Commentaries. (ROLL NO -11, 12)
7. The Mystical Dimensions of Sufism(ROLL NO -13, 14)
8. Global Legacy of Gandhian Ideas(ROLL NO -15, 16)
9. The Architectural Culture of the Vijayanagar Empire(ROLL NO -17, 18)
10. Life of Women in the Mughal Rural India (ROLL NO - 19, 20)
11. Comparative Analysis of the Land Revenue Systems Introduced by the Britishers in India (ROLL NO -21, 22)
12. The Revolt of 1857- Causes; Planning & Coordination; Leadership, Vision of Unity (ROLL NO -23, 24)

13. The Philosophy of Guru Nanak Dev(ROLL NO -25, 26)
14. The Vision of Kabir (ROLL NO -27, 28)
15. An Insight into the Indian Constitution (ROLL NO -29, 30)
16. Comparative Study of Stupas and Pillar Edict. (ROLL NO -31, 32)
17. Comparative Study of Mughal and Vijayanagar Architecture (ROLL NO -33, 34)
18. A Comprehensive History of Jainism (ROLL NO -35, 36)
19. Civil Disobedience movement
(ROLL NO - 37, 38)
20. Agrarian Society under Mughal
(ROLL NO- 39, 40)
21. Perceptions of foreign travelers about Indian society (10th - 17th century). (ROLL NO: 41, 42)

Activity Work

- 1: Collect the pictures of Gandhi ji and his movements from old newspapers and paste those on the chart paper with proper information.
- 2: Collect the pictures of archaeological and literary sources and paste them in a scrapbook.

Important Task

- a) Learn all notebook work.
- b) Prepare Maps of each chapter of Ancient History (paste in History notebook)
- c) Practice question/ answers of worksheet:1 (containing questions of chapter 1, 2 & 3 of Ancient History).

POLITICAL SCIENCE:

1. PROJECT WORK

Prepare a project file on any ONE of the following topics:

- NAM – 1961 to Present Times
- Division of Germany and Berlin Wall
- CIS – Central Asian Republics
- Disintegration of USSR with focus on Gorbachev
- Arab Spring
- India's Relations with Russia / China / Pakistan / Bangladesh
- ASEAN
- European Union and India
- BRICS
- SAARC
- India's Nuclear Policy
- United Nations and India's Security Council candidature
- UN Agencies – UNICEF, UNESCO, WHO
- Covid-19 Pandemic and its Global Impact
- Partition of India – Theory and Legacy
- NITI AAYOG and Planning Commission
- Election Commission of India and Electoral Roll Revision
- Elections 2019 – Rise of BJP and Decline of Congress
- Imposition of Emergency in India
- NDA III and NDA IV – Welfare Programmes

2. COMPLETE NOTEBOOK WORK

Complete all classwork and notes neatly and systematically.

3. REVISION WORK

Revise all the chapters and topics taught in class.

LEGAL STUDIES:

Revise unit 1- judiciary

Do questions and answers in your note book

PHYSICAL EDUCATION:

Complete the Practical File:

Practical no.1 Fitness test (SAI khelo Fitness test)

Practical no.2 Procedure of Asanas, Benefits and Contraindication of any two Asanas for each Lifestyle Disease.

Practical 3.Any one game/Sports of your choice.

PSYCHOLOGY:

- Kindly read the first chapter – “Variations in Psychological attributes” again and make a chart representing all the theories of psychology given by different psychologist.
- Also read the second chapter – “Self and Personality” and write a short passage on any one of the assessment method.
- Complete NCERT based question answers in your fair notebook.
- Complete the Assignment and extra questions given to you during extra class.
- Please complete the Case profile (Project file) on the topic given to you in class.