SUMMER HOLIDAY HOMEWORK

2026

Prepared By:

Name: _____

Class: _____

Section: _____

Submitted To:

V R SENIOR SECONDARY SCHOOL

Summer Vacation Assignment

Learn, Explore & Enjoy!

INSTRUCTIONS:

- Complete all given homework neatly.
- Do your work in your own handwriting.
- Submit after summer vacation.

Have a Happy & Productive Summer Vacation!

INSTRUCTIONS FOR THE PARENTS

Dear parents,

Warm greetings!

Holidays are time when you can connect with your child in many ways. Parents are the first and the most important teacher for a child. You can encourage your child to participate in many educational activities at home and promote his/her quests to learn while working together as it will not only help your child to build, learn and develop his/her skills but also strengthen your bond with him/her .

Homework has to be done under the parents' guidance. Make him/her read daily one or two pages from their books. Don't miss to take your child outdoors in the evening.

Fix up a timetable for your child to organize his/her daily routine like watching television, mobile surfing for information, playing with friends, studying, etc. Dictate them whatever they have read or written.

Make your child responsible by assigning some of the household responsibilities like watering plants, arranging the dining table, organize their room and fill the empty water bottles and put them in refrigerator.

Encourage your child to eat healthy food, avoid eating junk food, wear clean clothes, wash hands before and after every meal, trim their nails. Let them play and share their stories with their grandparents.

Above mentioned guidelines will help your child to become a smart and an active learner.

INSTRUCTIONS FOR THE STUDENTS

1. Get up early in the morning.
2. Wish your parents, grandparents and elders.
3. Pray to God daily.
4. Exercise everyday.
5. Brush your teeth twice a day in the morning and before bedtime.
6. Stay clean and healthy.
7. Do not play in the sunshine or at hot places.
8. Keep some water and food for birds.
9. Help the poor by giving them food, clothes or money.
10. Wash your hands with soap.
11. Do not waste water and electricity .
12. Do your vacation work by yourself.
13. Writing should be very neat and clean.
14. Try to do your written work regularly to enhance your writing skill.
15. Do one page of your English and Hindi writing books once a week.
16. Read your chapters loudly.

NOTE- Homework should be done neatly on a separate notebook.

English

Literary Devices – My Mother at Sixty Six

1 Identify the literary device used in the line: “Driving from my parent’s home to Cochin last Friday morning.”

2 Find the literary device in the line: “Trees sprinting, the merry children spilling out of their homes.”

3 What literary device is used in the phrase: “wan, pale as a late winter’s moon” ?

4 Explain the poetic device used in “smile and smile and smile.”

5 Write any four themes highlighted in the poem “My Mother at Sixty Six.”

Write the answers of following given questions.

1. Why was Franz afraid of going to school that day?
2. What announcement was made by the order from Berlin?
3. Why did M. Hamel wear his special dress that day?
4. How did Franz’s attitude towards school change at the end of the lesson?
5. What was the significance of M. Hamel’s last words?
6. What fear did the poet experience while looking at her mother?
7. Why did the poet compare her mother to a late winter’s moon?
8. What do the images of trees and children symbolize?
9. Why did the poet smile repeatedly at the end of the poem?
10. Explain the central idea of the poem.
11. Why was the Maharaja called the Tiger King?
12. What prediction was made by the astrologers at the time of the Maharaja’s birth?
13. How did the Maharaja try to prove the prediction wrong?
14. Why did the Maharaja decide to marry?
15. How did the Tiger King eventually die?

Article Writing

1 Write an article on the topic “Importance of Discipline in Student Life.”

2 Write an article on “The Impact of Social Media on Teenagers.”

3 Write an article on “Save Environment, Save Future.”

Letter Writing

1 Write a letter to the editor about increasing pollution in your city.

2 Write a letter to the editor regarding the problem of traffic jams near schools.

3 Write a letter to the editor on the need for cleanliness in public places.

Notice Writing

1 You are the Cultural Secretary of your school. Draft a notice for an inter-school debate competition.

2 Write a notice informing students about a tree plantation drive in school.

3 Draft a notice for lost and found regarding a school identity card.

SUBJECT:- PHYSICS

1.What is the SI unit of electric charge?

2.State the law of quantization of electric charge.

3.Define electric field intensity and write its SI unit.

4.What is the value of electric field intensity inside a conductor?

5What is the electric flux through a closed surface enclosing a dipole?

6.Define electric dipole moment and state its SI unit.

7.What is the nature of the force between two charges ($q_1q_2 > 0$)?

8.How does the force between two charges change when a plastic sheet is inserted?

9.Sketch the electric field lines for an isolated positive charge.

10.What is the formula for torque acting on a dipole in a uniform electric field?

11.Electrostatic Potential and CapacitanceDefine electric potential and state its SI unit.

12.What is the electric potential at a point on the equatorial line of an electric dipole?

13.Draw an equipotential surface for a uniform electric field.

14.What is the value of the electrostatic potential inside a conductor?

15.Define dielectric constant.How does capacitance change when the distance between plates is halved?

16.What is the formula for the energy stored in a capacitor?

17.Define capacitance and state its SI unit.

18.What is the work done in moving a charge over an equipotential surface?

19.Why are electric field lines perpendicular to equipotential surfaces?

20.Electric CurrentDefine electric current and write its SI unit.

21.What is drift velocity?Write the relationship between current density (J) and electric field (E) .

22.Define resistivity of a material.How does the resistance of a conductor change with an increase in temperature?

23.State Ohm's law.Define mobility of charge carriers.

24.What is the SI unit of electrical conductivity?

25.Define EMF of a cell.State Kirchhoff's first law (current law).

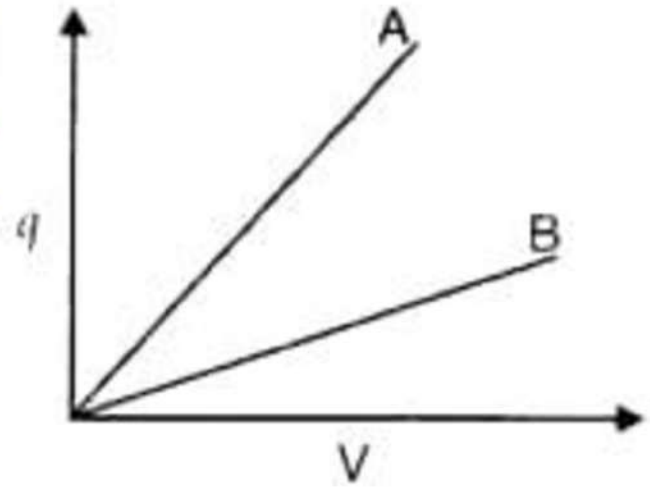
26.A charge 'q' is placed at the centre of a cube of side l. What is the electric flux passing through each face of the cube?

27.Two charges of magnitudes -3Q and + 2Q are located at points (a, 0) and (4a, 0) respectively. What is the electric flux due to these charges through a sphere of radius '5a' with its centre at the origin?

28.Write the expression for the work done on an electric dipole of dipole moment p in turning it from its position of stable equilibrium to a position of unstable equilibrium in a uniform electric field E.

29.Two equal balls having equal positive charge 'q' coulumbs are suspended by two insulating strings of equal length. What would be the effect on the force when a plastic sheet is inserted between the two ?

30.The given graph shows variation of charge 'q' versus potential difference 'V' for two capacitors C1 and C2. Both the capacitors have same plate seperation but plate area of C2 is greater than that of C1. Which line (A or B) corresponds to C1 and why?



CHEMISTRY

1. Gases tend to be less soluble in liquids as the temperature is raised. Why?
2.How is the concentration of a solute present in trace amount in a solution expressed?
3.Define the following terms :
(a) Pseudo first order reaction.
(b) Half life period of reaction (t1/2).
4.Colligative properties are properties of solution which depend on the number of solute particles in the solution irrespective of their nature.
a) Name the four important colligative properties.
b) What happens to the colligative properties when ethanoic acid is treated with benzene? Give reason.
5. Draw the vapour pressure-mole fraction curve for a non-ideal solution having positive deviation, if A and B are the two volatile components.
6.Mixture of two liquids A and B form an ideal solution. Draw the vapour pressure-composition curve for this solution .
7.Vapour pressure of a solution is different from that of pure solvent.
i) Name the law which helps us to determine partial vapour pressure of a volatile component in a solution.
ii) Vapour pressure of chloroform (CHCl3) and dichloromethane (CH2Cl2) at 298K are 200 mm of Hg and 415 mm of Hg respectively. Calculate the vapour pressure of solution prepared by mixing 24g of chloroform and 17g of dichloromethane at 298K.
8.Osmotic pressure is a colligative property.
a) What is osmotic pressure?
b) 1.00 g of a non-electrolyte solute dissolved in 50 g of benzene lowered the freezing point of benzene by 0.40K. The freezing point depression constant of benzene is 5.12 K kg/mol. Find the molar mass of the solute.
9. A solution contains 15 g urea (molar mass = 60 g mol-l) per litre of solution in water has the same osmotic pressure as a solution of glucose (molar mass = 180 g mol-1) in water. Calculate the mass of glucose present in one litre of its solution.
10. Define minimum boiling azeotropes with example.
11.Write the anode and cathode reactions occur in the operation of a lead storage battery. Mention the electrolyte used in the battery.
12. a) What are primary batteries?
b) The cell potential of a mercury cell is 1.35 V, and remains constant during its life. Give

reason.

c) Write the equations of the reactions involved at each electrode in a $H_2 - O_2$ fuel cell.

13.A solution of $CuSO_4$, is electrolysed for20 minutes with a current of 1.5 amperes. What is the mass of copper deposited at cathode? (Atomic mass of copper = 63)

14.Predict the products of electrolysis of the following substances at anode and cathode using suitable chemical equations: (a) Aqueous NaCl (b) H_2SO_4 solution .

15.a) Symbolically represent standard hydrogen electrode, when it acts as an anode and as cathode.

(b) Write Nernst equation for a Daniel cell. (Assume activity of metals is unity).

16.Diagrammatically represent $H_2 - O_2$ fuel cell and write the half cell reactions taking place in this cell.

17.(i) What are secondary batteries?

(ii) Write the electrode reactions and the overall cell reaction happening in the lead storage battery when it is in use.

18.State Kohlrausch's law of independent migration of ions.

19.Charge of one mole of electrons is:

(i) 1.6021 x 10–19 C (ii) 96500 C (iii) 6.022 x 1023 C (iv) 1 C

20. (i) The standard electrode potential for Daniel cell is 1.1 V. Calculate the standard Gibbs Energy change for the reaction: $Zn(s) + Cu^{2+}(aq) \rightarrow Zn^{2+}(aq) + Cu(s)$.

(ii) Explain the working of $H_2 - O_2$ fuel cell.

21.An archaeological substance contained wood had only 66.66% of the 14C found in a tree. Calculate the age of the sample if the half-life of 14C is 5730 years.

22. Unit of rate constant (k) of a reaction depends on the order of the reaction. If concentration is expressed in mol L-1 and time in seconds (s), find the unit of k for zero, first and second order reaction.

23.. The order of a reaction can be zero and even a fraction but Molecularity cannot be zero or a non-integer.

i) What do you mean by the order of a reaction?

ii) What is Molecularity of a reaction?

iii) The conversion of molecules A to B follows second order kinetics. If concentration of A is increased to three times, how will it affect the rate of formation of B? (2) [March 2010]

24. The value of rate constant k of a reaction depends on temperature. From the values of k at two different temperatures, the Arrhenius parameters Ea and A can be calculated.

The rate constants of a reaction at 1000K and 1060K are 0.01M-1s-1 and 0.10M-1s-1 respectively. Find the values of Ea and A.

25.The hydrolysis of an ester in acidic medium is a first order reaction.

a) What do you mean by a first order reaction?

b) What is the relation between rate constant and half-life period of a first order reaction? (½)

c) Half-life period of a first order reaction is 20 seconds. How much time will it take to complete 90% of the reaction?

26.Conductivity Experiment

A student tests electrical conductivity of different solutions using a bulb circuit.

Solution	Observation
Sugar solution	Bulb does not glow
NaCl solution	Bulb glows brightly

Questions:

A.Why does NaCl solution conduct electricity?

B.Why does sugar solution not conduct electricity?

C.What type of electrolytes are NaCl and sugar?

D.Define molar conductivity.

E.How does conductivity change with dilution for strong electrolytes?

27.Mobile Phone Battery Heating

A mobile phone becomes warm while charging.

Questions:

A.Which type of battery is commonly used in smartphones?

B.Why is heat produced during charging?

Mathematics

Instructions:-

- **Use a separate notebook/ file for holiday home work.**
- **Draw neat diagrams or graph wherever required.**
- **Show complete steps in calculations.**
- **Make charts /models using coloured sheets if possible.**
- **Submit your work after summer vacations.**
- **5 Marks will be added/deduct in internal board marks.**

Section- A (Daily Practice)

Activity1:- Formula Chart

Prepare colourful chart containing formula from:-

(i) Relations and Functions.
(ii) Inverse Trigonometric Functions.
(iii) Matrices
(iv) Determinants.
(v) Continuity and Differentiability.
(vi) Integrals
(vii) Probability

Activity2:- Mathematics in Real Life.

Write any 5 uses of mathematics in daily life with pictures/examples.

Example topics:- Mobile recharge plans , Banking , ConstructionsBusiness profit/ loss , Sports statistics.

Section-B (Activity Based Tasks)

Activity3:- Matrix Art

Using matrices , Create any design or pattern on graph paper.

Instructions,

- Take a matrix of coordinates.
- Plot points on graph paper.
- Join points to form a figure.

Examples:- House , Kite , Star , Flower.

Activity4:- Probability Survey

Conduct a small survey of 20 students (from your area) and take a pick with them during Survey on:-Favourite subject , favpourite sport , Daily study hours.

Represent the data using :- Bar graph , Pie Chart , Probability Calculations.

Section-C (Project Work)

Activity5:- Mathematical Model

Make any one model/project:-

- Pyramid using geometric shapes.
- Trigonometric Shapes.
- Mathematical Clock
- Probability Spinner
- 3D Coordinate Axes

Write :- Aim , Material used , Procedure , Conclusion.

Activity6:- Linear Programming in Real Life.

Task:- Visit a nearby shop or imagine a small business.

Example :- A juice shop sell :- Orange juice , mango shake.

Prepare:- Cost price , Selling price , Resource limitations.

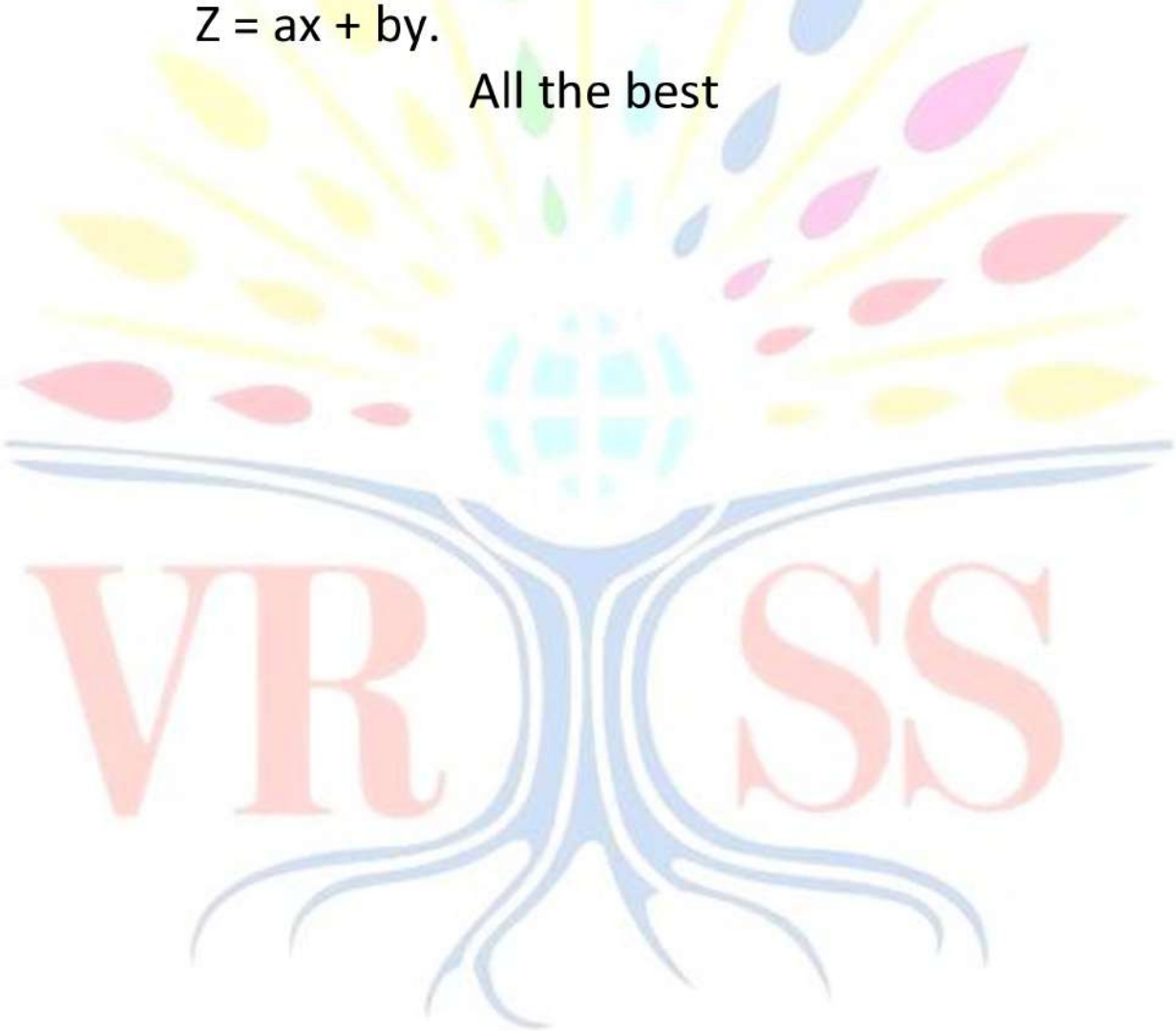
Form :- Variables , Constraints , Objective function.

Then solve graphically.

Include :- Graph paper , Feasible region , Maximize profit

$Z = ax + by$.

All the best



Subject: Informatics Practices (065)

✍ Section A – Theory (Write in Notebook)

Q1. What is Python? Explain its features.
Q2. Differentiate between **List, Tuple, and Dictionary** with examples.
Q3. Explain the following functions with examples:

- `len()`
- `type()`
- `range()`
- `input()`

Q4. What is a DataFrame in Python? Write its characteristics.
Q5. Define:

- Primary Key
- Foreign Key
- DBMS

Section B – Python Programming

Write programs in your practical notebook / computer:
Q1. Write a program to input 5 numbers and print their sum and average.
Q2. Write a program to check whether a number is even or odd.
Q3. Write a program to create a list of 10 numbers and:

- Print maximum number
- Print minimum number

Q4. Write a program to count vowels in a string.
Q5. Create a dictionary of 5 students with marks and display the highest scorer.

Section C – Data Handling using Pandas

Q1. Create a DataFrame with student details (Name, Class, Marks).
Q2. Perform the following operations:

- Display first 3 rows
- Display only Name column
- Find maximum marks

Q3. Write steps to install Pandas library.

Section D – SQL (Database)

Write SQL queries:
Q1. Create a table `STUDENT` with fields:
`RollNo, Name, Class, Marks`
Q2. Insert 5 records into the table.
Q3. Display all records.
Q4. Display students scoring more than 80 marks.
Q5. Update marks of a student.

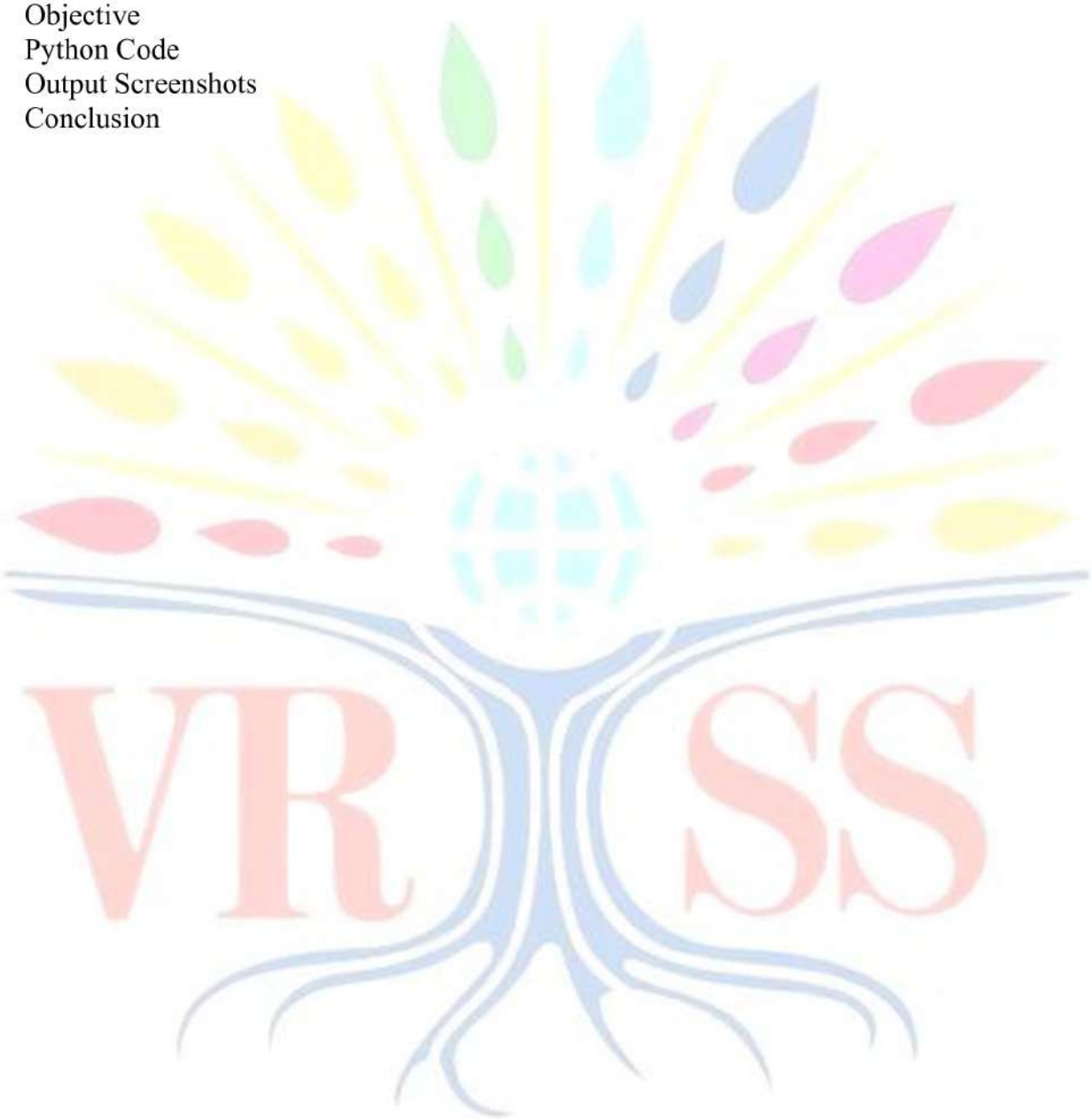
Section E – Project Work

Prepare a **mini project** on any one topic:

- Student Management System
- Library Management System
- School Result Analysis

👉 Include:

- Introduction
- Objective
- Python Code
- Output Screenshots
- Conclusion



PHYSICAL EDUCATION

Read the following chapters and prepare notes in your register:

Unit – 1 Management of Sporting Events

Unit – 2 Children And Women in Sports

Unit – 3 Yoga as Preventive Measure for Lifestyle Diseases

Unit – 4 Physical Education and Sports for CWSN (Children With Special Needs-divyang)

Prepare a record file for Physical Education.

Record file shall include:

P. 1 – Physical Fitness Test: SAI Khelo India Test

P. 2 – Yogic Practices. Procedure for Asanas, Benefits & contraindications for any two Asanas for each lifestyle disease.

Obesity, Diabetes, Asthma, Hypertension, Back Pain and Arthritis

P. 3 – Proficiency in Games and Sports (Anyone IOA recognized Sport/Game of choice).

Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.