BHAVDIYA PUBLIC SCHOOL AYODHYA
SUMMER VACATION HOMEWORK (2026-27)
CLASS-XII SCIENCE

English

Project: Visit to a Slum Area
Based on the Chapter: Lost Spring*
Theme: "Beyond Poverty: Understanding Life, Dignity and Social Responsibility "

The project aims to help students connect the realities shown in Lost Spring with real-life experiences of children and families living in underprivileged areas. Students will observe, interact, document, and contribute meaningfully during the visit.

Group 1 – Media Coverage Team (All boys)

Objective:
To document the realities of slum life through interviews, photographs, videos, and observations, relating them to the themes of Lost Spring.

Tasks:

Record short interviews with residents (with permission).
Capture photographs/videos showing daily life, struggles, hopes, and working conditions.
Prepare a short documentary/report after the visit.

Interview Questions:

What are the major difficulties you face daily?
What dreams do you have for your children?
How important is education in your life?
What facilities are most lacking here?
What message would you like to give to students?

Creative Task:
Prepare a 3–5 minute documentary titled:
"Voices Beyond the Walls"

Group 2 – Awareness & Poster Making Team (All girls)

Objective:
To spread awareness about education, hygiene, equality, and kindness through creative interaction.

Tasks:
Design posters and slogans before the visit.
Display posters during the visit.
Conduct awareness activities with children and residents.

Poster Themes:

"Education is Every Child's Right"

“Cleanliness Creates Health”
“Small Help, Big Difference”
“Humanity Begins with Kindness”

Reflection Questions:
How can awareness bring social change?
What did you learn from interacting with children?
Which issue affected you the most?
How can students contribute to society?

Creative Task:
Create a collage/poster exhibition after the visit.

Group 3 – Donation & Helping Hands Team (All girls)

Objective:
To collect and distribute useful items respectfully and responsibly.

Tasks:

Collect old clothes in good condition.
Arrange small food packets such as biscuits and chips.
Ensure proper and respectful distribution.

Observation Questions:

How did people react to the donations?
Why is dignity important while helping others?
What did this activity teach you about gratitude?
How can small acts of kindness create impact?

Creative Task:
Maintain a donation record sheet and write a reflection titled:
“The Joy of Giving”

Final Submission (For All Groups)

Each group must submit:

A brief report (2–3 pages)
Photographs/posters/documentation
Personal reflection on the experience
One learning outcome from the project
Conclusion Question:

“How did this visit change your understanding of poverty, humanity, and social responsibility?”

Question 2.What small actions make elderly people feel loved and valued?
Create a “Wall of Care” using messages, sketches, and personal experiences.
Read any one of the books and write the book review
The Monk Who Sold His Ferrari
Or

1984

Or

The Kite Runner

Watch any one of the webseries and write film review

. Hostel Daze

Or

Sherlock

Note : Prepare the syllabus for PA

MATHS :-

General Instructions:

* Use separate A4 sheets/project file.
* Draw neat diagrams, graphs, and charts wherever required.
* Mention formulas and steps clearly.
* Submit the project after summer vacation as instructed.

Project Topics:

1. Application of Matrices in Real Life
   i. Types and uses of matrices
   ii. Applications in banking, graphics, cryptography, etc.
   iii. Solve 5 matrix-based problems
2. Probability in Daily Life

Conditional probability and Bayes' theorem

   i. Survey of 30–50 people and probability calculations

3. Calculus and Its Applications
   i. Applications of differentiation and integration
   ii. Solve 5 questions each from derivatives and integration
4. Mathematical Models in Economics
   i. Demand and supply curves
   ii. Compound interest and exponential growth
5. Statistics Project
   i. Collect marks of 20 students

Find mean, median, mode, and standard deviation

Represent data using graphs/charts.

CHEMISTRY:-

S.N	Name of investigatory project	ROLL NO.
1.	Study of the presence of oxalate ions in guava fruit at different stages of ripening.	1,9,17,25,33
2.	Study of the quantity of casein present in different samples of milk	2,10,18,26,34
3.	Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature etc.	3,11,19, 27
4.	Study of the effect of potassium bisulphate as food preservative under various conditions(temp, conc.,time etc)	4,12,20,28
5	Study of digestion of starch by salivary amylase and effect of pH and temperature on it.	5,13,21,29

6	Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice etc	6,14,22,30
7	Extraction of essential oils present in saunf(Aniseed)Ajwain (Carom, illaichi(cardamom).	7,15,23,31
8	Study of common food food adulterants in fat, Oil, butter, sugar, turmeric powder, chilli powder and pepper	8,16,24,32

BIOLOGY:-

Including Investigatory Project
Investigatory Project
Topic Options (Choose Any One)
1. Investigating b o d of water sample as a pollution indicator.
2. Investigating the p h of water sample.
3. Agrowchemical and their effects.
4. To make an investigatory on local trees.
5. To make an investigatory of local shrubs.
6. Population density of a plant.
7. Study Of genetic marker in the human population.
8. Study the effect of local industries on environment.
9. Ecological role of some animals observed in the local area.
10. Inventory of weed in agricultural field.
11. Inventory of bird in your locality.
12. Impact.\nOf local industries on the environment.

Format of Investigatory Project
1. Cover Page
Title of project
Name of student
Class & section
Roll number
School name
2. Certificate
3. Acknowledgement
4. Index
5. Introduction
Write basic information related to the topic.
6. Objectives
Mention aims of the project.

7. Materials Required
8. Methodology / Procedure
Explain step-by-step procedure.
9. Observation Table
Include readings/data wherever required.
10. Result / Conclusion

PHYSICS:-

Instructions for Students:
Prepare the work neatly in a separate Physics notebook/file.
Focus on understanding, observation and practical application rather than lengthy writing.
Use diagrams, charts and real-life examples wherever required.
Submission must be done in the first week after summer vacation.
Part–A : Competency Based Activities
1. Daily Life Physics Observation
Observe any five applications of Physics used in daily life.
For each activity write:
Name of the device/application
Principle involved
One practical use
Example:
Device
Physics Principle
Use
Electric Fan
Electromagnetic induction
Air circulation
2. Numerical Practice
Solve the following competency-based numerical:
Calculate the current flowing through a 220 V bulb of resistance 440 Ω.
A convex lens has focal length 20 cm. Find its power.
Calculate the energy stored in a capacitor of capacitance 2 μF charged to 100 V.
A radioactive substance has half-life of 5 years. What amount remains after 10 years if initial mass is 80 g?
A wire carries 2 A current for 5 minutes. Find total charge passed.
3. Case Study Activity
Read about any one modern technology based on Physics:
Solar Panel
MRI Machine
Electric Vehicle
Optical Fibre Communication
LASER Technology
Write in about 150 words:
Working principle
Importance in daily life
Future applications
Part–B : Skill & Experimental Learning
4. Graph Activity
Draw and label any two graphs from the following topics:
Ohm's Law
Photoelectric Effect
Charging and Discharging of Capacitor
Radioactive Decay Curve
Mention the conclusion obtained from each graph.
5. Formula Chart Preparation
Prepare a one-page formula chart of the following units:
Electrostatics
Current Electricity
Ray Optics

Modern Physics
Use coloured pens/highlighters for better presentation.
Part–C : Investigatory Project
Physics Investigatory Project (Mandatory)
Prepare one investigatory project on any one topic:
Efficiency of Solar Cooker
Verification of Ohm's Law
Working Model of Electromagnetic Crane
Study of Transformer Losses
Charging and Discharging of Capacitor
Optical Fibre Communication
Study of Household Wiring System
Electromagnetic Induction in Daily Life

Project Format:
Title
Objective
Materials Required
Theory/Principle
Procedure
Observation
Result/Conclusion
Applications
Bibliography

Note:
Project should be activity-based and supported with photographs/handmade diagrams if possible.
Model or demonstration material will be appreciated.
Holiday Learning Challenge
Watch any one educational Physics video/documentary and write:
Three new concepts learned
One question that came to your mind after watching it
"Physics is not only a subject, it is the science behind every activity of life."
– Department of Physics

PHYSICAL EDUCATION :-

1 .Manual file
* SAI KHELO TEST
* YOGA
2. Maintain a fitness record for 15 days:
   * Running/Jogging Time
   * Skipping Count
   * Push-ups/Sit-ups
   * Stretching Exercises
3. Write short notes on:
   * Balanced Diet
   * Olympic Movement
   * Women Participation in Sports
   * First Aid in Sports Injuries

COMPUTER SCIENCE :

Students are required to prepare a handwritten Report File for revision of Python programming concepts. The work will be assessed as part of internal/practical preparation.

Report File Work

Prepare a neat and creative report file including:

1. Front Pages:
2. Cover Page
3. Certificate
4. Acknowledgement
5. Index

Python Programs

Write and execute the following programs in the report file with:

- Aim
- Program Code
- Output
- Explanation

Programs to be Included

Python Functions & Revision Programs

Program 1

Write a function to calculate the factorial of a number.

Program 2

Write a function to check whether a number is Prime or not.

Program 3

Write a recursive function to print Fibonacci series upto n terms.

Program 4

Write a function to find the largest number among three numbers.

Program 5

Write a menu-driven program using functions for:
Addition
Subtraction
Multiplication
Division

Program 6

Write a function to count vowels and consonants in a string.

Program 7

Write a function to check whether a string is Palindrome or not.
File Handling Program

Program 8

Write a Python program to open a text file and display its contents line by line.

PYQ Practice Work

Solve minimum 10 Previous Year Questions based on:

- Functions
- Recursion
- Output Questions
- File Handling

Instructions

- All work must be handwritten.
- Maintain proper formatting and neatness.
- Use ruled sheets/file pages only.
- Draw margins properly.
- Programs must be executed and outputs should be attached/written neatly.
- Holiday homework will be checked after the summer vacation**.**

हिन्दी

विभिन्न जनसंचार माध्यमों – प्रिंट, रेडियो, टेलीविजन, इंटरनेट से जुड़ी पाँच – पाँच खूबियां और खामियों को लिखते हुए एक तालिका तैयार करें । (A 4 शीट पर)

* अपने परिवार के किसी बड़े सदस्य का साक्षात्कार लीजिए और उनके जीवन अनुभवों को 200 शब्दों में लिखिए। (A4 शीट पर)

PSYCHOLOGY

1. **Section- A**

   Read chapter 1 and 2 and prepare 40 mcqs. 20 from each chapter. It should include - - -
   Assertion reason
   - Case based mcqs.
   It should be done in the classwork copy.

2. **Section- B**

   i. Prepare a practical file for the Emotional intelligence test.
   ii. Prepare a file for Self-concept scale.
   These practical files will include
   - Aim - To assess the emotional capacity of my subject using the Emotional Intelligence Test.
   - Introduction or basic concept
   - METHOD
   - Demographic details.
   - Material required
   - Description of Test
   - Procedure
   - Instructions
   - Precaution
   - Introspective report
   - Behavioural report
   - Table for interpretation of score
   - Result
   - Analysis and interpretation
   - Conclusion
   - Reference

3. **Section - C**
   - Project work
   - What is a case study
   - Introduction
   - Definition
   - Meaning of Case Study
   - Characteristics of Case Study
   - Steps in Case Study Method
   - Advantages
   - Limitations.

FINE ARTS

General Instructions

- Complete all work neatly in a sketchbook or on A3 sheets.

- Use proper drawing and coloring materials.
- Focus on creativity, observation, shading, and composition.
- Mention the title and date on every artwork.
- Submit all work in a handmade folder after the summer vacation.

1. Composition Drawing

Prepare any 2 composition drawings on the following themes:

- Market Scene
- Village Life
- Festival Celebration
- Rainy Day
- School Playground
- Save Environment
- Music and Dance
- Street Scene

Instructions:

- Use human figures wherever required.
- Show proper background and foreground.
- Apply suitable colors and balanced composition.

2. Nature Study

Prepare 1 nature study drawings from direct observation.
Draw and color:

- Leaves and branches
- Flowers in a vase
- Trees and plants
- Fruits and vegetables
- Landscape view (garden, river, sunrise, etc.)

Focus on:

- Natural color tones
- Texture
- Light and shadow
- Observation skills

3. Object Drawing

Prepare 5 object drawings using pencil shading or colors.

- Suggested objects:
- Bottle and glass
- Earthen pot
- Books and stationery
- Shoes or bag
- Tea cup set
- Fruit basket

Instructions:

- Maintain correct proportion and perspective.
- Show light source and shading properly.
- Arrange objects creatively before drawing.