

SHANTI GYAN NIKETAN SR. SEC. PUBLIC SCHOOL
Class XII (2025-26) - Holiday Home Work

ENGLISH

I Make the project file as discussed in the class.

II Prepare chapters :

a) Deep water

b) Rattrap

c) Third Level

for Class test in the first week of July.

विषय हिंदी

1. संचार के विभिन्न माध्यमों पर फाइल तैयार करो।

2. निम्न विषयों पर आलेख लिखिए

क. विज्ञापनों की लुभावनी दुनिया

ख. किसानों की समस्याओं की अनदेखी

ग. सेना में महिलाओं की बढ़ती रूचि

घ. आंतरिक समस्याओं से जूझता हमारा देश

ड. आवश्यक सुविधाओं से वंचित भारत के गाँव

3. कक्षा में करवाए गए पाठ / कविता का संक्षिप्त सार लिखो। शेष पाठ्यक्रम याद करो।

MATHEMATICS

1. Find the principle value of each of the following:

(i) $\tan^{-1}(-\sqrt{3})$ (ii) $\cos^{-1}\left(-\frac{1}{\sqrt{2}}\right)$ (iii) $\operatorname{cosec}^{-1}(-\sqrt{2})$ (iv)

$\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$

(v) $\sin^{-1}\left(-\frac{1}{2}\right)$ (vi) $\tan^{-1}\left(\frac{1}{\sqrt{3}}\right)$ (vii) $\sec^{-1}(-\sqrt{2})$ (viii)

$\cot^{-1}(-\sqrt{3})$

2. Evaluate each of the following:

(i) $\cos^{-1}\left(\frac{1}{2}\right) + 2 \sin^{-1}\left(\frac{1}{2}\right)$ (ii) $\tan^{-1}\left\{2 \cos\left(2 \sin^{-1}\frac{1}{2}\right)\right\}$

(iii) $\tan^{-1}(1) + \cos^{-1}\left(-\frac{1}{2}\right) + \sin^{-1}\left(-\frac{1}{2}\right)$ (iv) $\tan^{-1}(\sqrt{3}) - \sec^{-1}(-2) +$

$\operatorname{cosec}^{-1}\left(\frac{2}{\sqrt{3}}\right)$

3. Evaluate each of the following:

$$(i) \sin^{-1}(\sin \frac{\pi}{3}) \quad (ii) \cos^{-1}(\cos \frac{2\pi}{3}) \quad (iii) \tan^{-1}(\tan \frac{\pi}{4}) \quad (iv) \sin^{-1}(\sin \frac{2\pi}{3})$$

$$(v) \cos^{-1}(\cos \frac{7\pi}{6}) \quad (vi) \tan^{-1}(\tan \frac{3\pi}{4}) \quad (vii) \sin^{-1}(\sin \frac{5\pi}{6}) \quad (viii)$$

Evaluate the following:

$$(i) \tan^{-1}\left\{2 \cos\left\{2 \sin^{-1} \frac{1}{2}\right\}\right\} \quad (ii) \sin\left\{\frac{\pi}{3} - \sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)\right\} \quad (iii)$$

$$\cos\left(\sin^{-1} \frac{3}{5}\right)$$

$$(iv) \sin\left(\cos^{-1} \frac{4}{5}\right) \quad (v) \cos\left(\sin^{-1} - \frac{3}{5}\right) \quad (vi) \tan\left\{\frac{1}{2} \cos^{-1} \frac{\sqrt{5}}{3}\right\}$$

4. Write the following functions in the simplest form:

$$(i) \tan^{-1}\left\{\frac{x}{\sqrt{a^2-x^2}}\right\}, -a < x < a \quad (ii) \tan^{-1}\left\{\sqrt{\frac{a-x}{a+x}}\right\}, -a < x < a$$

$$(iii) \sin^{-1}\left\{\frac{x}{\sqrt{x^2+a^2}}\right\} \quad (iv) \tan^{-1}\left(\frac{3x-x^3}{1-3x^2}\right)$$

DETERMINANTS

1. Find the area of a triangle whose vertices are (2,1), (4, -3) and (-2,5).
2. Show using determinants, that the three points (-1, -1), (5,7) and (8,11) are collinear.
3. Points (2,0), (0,5) and (x,y) are collinear. Show that $\frac{x}{2} + \frac{y}{5} = 1$.
4. Find the equation of the line passing through the point A (-3, -4) and B (-1,2).
5. Show that the points (b, c + a), (c, a + b) and (a, b + c) are collinear.
6. If the points (a, b), (a', b') and (a - a', b - b') are collinear, show that $ab' = a'b$.
7. If the points (3, -2), (x, 2) and (8, 8) are collinear, find the value of x.

8. Using matrices, solve the following system of equations :

(i) $x - y + 2z = 7$ $3x + 4y - 5z = -5$ $2x - y + 3z = 12$	(ii) $x + y - z = 3$ $2x + 3y + z = 10$ $3x - y - 7z = 1$	(iii) $4x + 3y + 2z = 60$ $x + 2y + 3z = 45$ $6x + 2y + 3z = 70$
(iv) $x + 2y + z = 7$ $x + 3z = 11$ $2x - 3y = 1$	(v) $\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4$ $\frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1$ $\frac{6}{x} + \frac{9}{y} - \frac{20}{z} = 2$	(vi) $\frac{2}{x} - \frac{3}{y} + \frac{3}{z} = 10$ $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 10$ $\frac{3}{x} - \frac{1}{y} + \frac{2}{z} = 13$
(vii) $x - y + 2z = 1$; $2y - 3z = 1$ $3x - 2y + 4z = 2$	(viii) $3x - 2y + 3z = 8$ $2x + y - z = 1$ $4x - 3y + 2z = 4$	(ix) $3x + 4y + 7z = 4$ $2x - y + 3z = -3$ $x + 2y - 3z = 8$
(x) $2x - 3y + 5z = 11$ $3x + 2y - 4z = -5$ $x + y - 2z = -3$	(xi) $4x - 5y - 11z = 12$ $x - 3y + z = 1$ $2x + 3y - 7z = 2$	(xii) $x + 2y + z = 4$ $-x + y + z = 0$ $x - 3y + z = 4$

9. Find A^{-1} , where $A = \begin{bmatrix} 1 & 2 & -3 \\ 2 & 3 & 2 \\ 3 & -3 & -4 \end{bmatrix}$. Hence, solve the system of equations

$$x + 2y - 3z = -4, \quad 2x + 3y + 2z = 2, \quad 3x - 3y - 4z = 11$$

10. If $A = \begin{bmatrix} 1 & -2 & 1 \\ 0 & -1 & 1 \\ 2 & 0 & -3 \end{bmatrix}$, then find A^{-1} and hence solve the following system of equations

$$x - 2y + z = 0, \quad -y + z = -2, \quad 2x - 3z = 10$$

11. If $A = \begin{bmatrix} 8 & -4 & 1 \\ 10 & 0 & 6 \\ 8 & 1 & 6 \end{bmatrix}$, then find A^{-1} and hence solve the following system of equations

$$8x - 4y + z = 5, \quad 10x + 6z = 4, \quad 8x + y + 6z = \frac{5}{2}$$

12. If $A = \begin{bmatrix} 1 & -1 & 1 \\ 2 & 1 & -3 \\ 1 & 1 & 1 \end{bmatrix}$, then find A^{-1} and hence solve the following system of equations

$$x + 2y + z = 4, \quad -x + y + z = 0, \quad x - 3y + z = 2$$

13. Use product $\begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix} \begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$ to solve the system of equations

$$x - y + 2z = 1, \quad 2y - 3z = 1, \quad 3x - 2y + 4z = 2.$$

14. Determine the product of $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix} \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and then use to solve the system off

$$x - y + z = 4, \quad x - 2y - 2z = 9, \quad 2x + y + 3z = 1.$$

15. If $A = \begin{bmatrix} 1 & -2 & 0 \\ 2 & 1 & 3 \\ 0 & -2 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 7 & 2 & -6 \\ -2 & 1 & -3 \\ -4 & 2 & 5 \end{bmatrix}$ then find AB and hence solve system of equations

$$x - 2y = 10, \quad 2x + y + 3z = 8, \quad -2y + z = 7$$

Physics

- Prepare the activity file as explained in class.
- Prepare one Investigatory Project as explained in class.
- Prepare Practical file as per instructions given in Class.

Chemistry

- Complete your investigatory project as already described in the group or as shared in the PDF in your WhatsApp group.
- Complete your Chemistry practical file with all the experiments done so far.
- Revise the syllabus that has been covered in class thoroughly.

BIOLOGY

1. Revise unit I- Reproduction of NCERT book.
2. Complete the following experiments in the practical file. Get the details of the file from your subject teacher

Experiments to be completed in practical notebook

(students should write the following experiment in given sequence only)

1. Prepare a temporary mount to observe pollen germination.
2. Flowers adapted to pollination by different agencies (wind, insects, birds).
3. Controlled pollination - emasculation, tagging and bagging.
4. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper).
5. T.S. of blastula through permanent slides (Mammalian).
6. Meiosis in onion bud cell or grasshopper testis through permanent slides.
7. Prepare a temporary mount of onion root tip to study mitosis.
8. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.
9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause.
10. Isolate DNA from available plant material (banana/papaya/strawberry).
11. Study the plant population density by quadrat method.
12. Study the plant population frequency by quadrat method.
13. Models specimen showing symbolic association in root modules of leguminous plants, Cuscuta on host, lichens.
14. Flash cards models showing examples of homologous and analogous organs.

Things to take care while preparing the file

- Write Aim, Principle, Requirements, Procedure, Result and Precautions on Right Hand Page (Ruled Page) of your file.
- Observation Table, Diagrams, Graph, should be on the Left-Hand Page (Blank Sheet) Each and every diagram should be well labeled and drawn with pencil only.

Computer Science

Write the following programs in your Computer Science notebook , after executing in python with output.

Program 1: Program to enter two numbers and print the result of arithmetic operations like +,-,*,/, // and %.

Program 2: Write a program to find whether an inputted number is perfect or not.

Program 3: Write a Program to check if the entered number is Armstrong or not.

Program 4: Write a Program to find factorial of the entered number.

Program 5: Write a Program to enter the number of terms and to print the Fibonacci Series.

Program 6: Input any number from user and check is it Prime no. or not

Program 7: Write a program to find the occurrence of any word in a string

Program 8: Program to perform logical operation on string.

Program 9: Write a menu driven program to check that the entered string is a palindrome or not, to reverse the original string and to print each word of the original string in reverse order.

Program 10: Program to implement all user defined functions of a list

Program 11: Program to show various logical operation on List.

Program 12: Program to show various logical operation on nested List

ACCOUNTANCY

(1) PREPARE YOUR PROJECT FILE. ONLY ONE SPECIFIC PROJECT BY USING THE ANY TWO ANALYTICAL TOOLS.

TOPIC :- RATIO ANALYSIS AND SEGMENT ANALYSIS OF A LTD COMPANY.

REQUIRED :- COLLECT ORIGINAL BALANCE SHEET AND STATEMENT OF PROFIT AND LOSS AND SEGMENT REPORT OF ANY LTD. CO. FOR THE YEAR ENDED 31ST MARCH 2024 OR 2025.

WRITE THE BASIC OF PROJECT.

MEANING OF PROJECT.

ADVANTAGES OF PROJECT.

SCOPE OF PROJECT.

ACKNOWLEDGMENT ECT.

(2) Do the given assignment in home holidays homework note book.

(3) Practice the previous year Board Question Papers . (only part – B)

Business Studies

1. You are required to make only one project carrying 20 marks from the following topics.

- (a) Principles of Management
- (b) Elements of Business Environment
- (c) Marketing Management
- (d) Stock exchange

2. Do previous Year's Board Questions from Chapter 2, 11

3. Revise Chapter 1, 2, 11

ECONOMICS

PART -1 CREATIVE WORK

1. Research Report: Colonial Impact on Indian Economy

Students can write a report on how British colonial rule affected various sectors of the Indian economy—agriculture, industry, trade, and infrastructure.

2. Timeline Chart

Make a timeline showing key economic events during British rule (e.g., Permanent Settlement, Railways introduction, Deindustrialization, etc.).

3. Newspaper Clipping Scrapbook

Collect or create mock newspaper clippings showing different perspectives on the Indian economy during British rule.

4. Comparative Table

Make a comparative table showing economic indicators (agriculture, industry, GDP, life expectancy) of India in 1947 vs post-independence decades (e.g., 1960, 1980, 2000, 2020).

5. Poster Making

Design a poster showing the exploitative economic practices under British rule, such as drain of wealth, or the condition of Indian handicrafts.

6. Interview Format Assignment

Imagine an interview with Dada Bhai Naoroji or R.C. Dutt discussing the "Drain of Wealth" theory. All of you have to prepare a project on the topic already assigned to you in class 11. With the instructions already given.

PART - II

Prepare the project on the topic already assigned to you with the given instructions. There should be pictures, graphs, data etc should be there on corresponding pages. A sample project and the follow the order as per the sample project given to you.

POLITICAL SCIENCE

PROJECT WORK

Suggested Topics

1. NAM- 1961 to present times.
2. Globalisation in contemporary world
3. CIS-Central Asian Republics
4. Disintegration of USSR with special focus on Gorbachev.
5. Centres of power Asian SAARC EU
6. Cover the negative as well as positive aspects of relationship between India and the following countries.

Focus on any one of the following (current updates should be highlighted):

- | | |
|---|---|
| a.) Relationship between India and Russia | b.) Relationship between India and China |
| c.) Relationship between India and Pakistan | d.) Relationship between India and Bangladesh |

7. ASEAN

8. European Union and Asian

9. BRICS

10. SAARC

11. India's Nuclear policy

12. United Nations with focus on India's candidature in Security Council.

13. UN Agencies – UNICEF, UNESCO, WHO

14. Challenges of nation building

15. Environment and natural resources

16. Partition of India-Theory behind it and its legacy

17. Comparison between NITI AAYOG and Planning Commission and their contribution in India's Development.

18. challenges to and Restoration of Congress system

19. End of bipolarity system

20. Emergency – A blot on Indian Democracy

21. NDA III and NDA IV – Social and Economic welfare programmes.

*Do assignment of end of bipolarity and planning development in your register.

GEOGRAPHY

1. Locate and label the following on the world map of India:

- (a) Areas of subsistence gathering

- (b) Areas of nomadic herding
 - (c) Areas of commercial livestock rearing
 - (d) Areas of extensive commercial grain farming
 - (e) Areas of mixed farming
2. Locate and label the following on the outline map of India:
 - (a) State with highest and lowest density of population
 - (b) Leading producing states of the following crops: Rice, Wheat, Cotton, Jute, Sugarcane, Tea, Coffee
 3. Prepare a project file on Spatial Information Technology / Geographic Information System.
Topics to be covered: explain GIS, advantages and disadvantages, components of GIS, difference between Raster and Vector method (paste the suitable pictures)

HISTORY

- A.** Prepare a booklet on any one of the religious faith.
 - 1 Buddhism (Roll no. 1-11)
 - 2 Jainism. (Roll no.12-22)
 - 3 Hinduism (Roll no. 23-33)
- B.** Start working on CBSE project. Related topics will be shared in the class group.
- C.** Students good at Art will have to opt for sketch/ art piece on Buddha, Mahavira, Vishnu, Shiva and Shakti. (Any one). They will be exempted from homework **A.**
- D.** Revise the syllabus completed before the summer break.

Psychology

1. CASE STUDY

the questions:Shaunya is a young boy of 15 years. He is the adopted kid. While looking at his biological parents, they are illiterate and suffer from poverty and unemployment. This was the reason they decided to leave their kid at orphanage when they felt that they might not be able to up bring the kid. Butthe adopted parents are well educated and are both doctors. This enabled the Shaunya's parents to provide him the best environment and resources to encourage him become successful. Shaunya excel in studies and he is the topper of his school. He understands the problems of everyone and cooperates with the kids at school. He deeply feels the situations and circumstances of other people and tries his best to understand and help them.

1. Seeing Shaunya's genetically background he might have become dull in studies and might show no interest in studies as his biological parents are. What is the reason he is intelligent? What is the interplay of nature and nurture in intelligence and development?
 2. Is Shaunya emotionally intelligent as well? What attributes and characteristics from the case makes you say he is.
- ### **2. Psychological Movie Review**

Focus: analyse a film that portrays a psychological disorder or altered mental state.

The Aviator #Shadow # The Shutter Island (Select any one)

Tasks: #Identify the specific disorder and how it is depicted in the movie.

Record the specific since and time stamps that support the diagnosis.

Analyze the film's portrayal of the disorder and its impact on the character.

PHYSICAL EDUCATION

Prepare Practical File on these three topics mentioned below:-

- Practical – 1: Write about Fitness tests administration. (SAI Khelo India Test) According to unit – 6(Test and Measurement).
- Practical – 2: Write the Procedure for Asanas, Benefits & Contraindications for any two Asanas for each lifestyle disease.(Lifestyle Diseases:- Obesity, Diabetes, Hypertension, Asthma and Back Pain & Arthritis. 2 Asanas for each disease, total 10 – 12 Asanas.) According to unit – 3 (Yoga as Preventive Measures for Lifestyle Diseases).
- Practical - 3: Write any one IOA recognised Sports/Game of your choice. Support it with Labelled diagram of Field & Equipment. Also mention it's Rules, Terminologies & Skills.
- **NOTE:-** Draw/ paste pictures for all practical. And you may take help from Google for all 3 practicals.
- Purchase a PHE practical file for Class XII from market and complete holidays Homework.

Entrepreneurship

Project 1: Business Plan

Step 1: Select a Product (Example: Organic Herbal Soaps)

You can choose a simple and relatable product like:

- Organic soaps
- Reusable water bottles
- Eco-friendly bags
- Customized phone covers
- Homemade candles

Let's go with Organic Herbal Soaps as an example.

Step 2: Create a Business Plan

A standard business plan includes the following:

- | | | |
|---------------------|----------------------|------------------------|
| 1. Title Page | 2. Executive Summary | 3. Business Objectives |
| 4. Product Details | 5. Market Analysis | 6. Marketing Strategy |
| 7. Operational Plan | 8. Financial Plan | 9. Conclusion |

Project 2: Market Survey File

Survey Topic: Preference for Herbal Soaps Over Commercial Soaps

Steps:

1. Create a survey form (Google Form or printed).
2. Sample Questions:
3. Collect responses from at least 15–20 people.
4. Present the results using:
 - Pie charts, bar graphs
 - Summary of key findings
 - Conclusion and suggestions based on survey

Project 3: Internship

Requirement: 8-hour internship

Ideas for internship:

- Work at a local shop or store
 - Help in a small office (billing, organizing, filing)
 - Assist in a home-based business (like bakery, tailoring, online store)
 - Document your work:-
- 1.Place: [Name and address]
 - 2 .Duration: 8 hours (mention dates and time)
 3. Tasks performed
 - 4.Skills learned
 - 5.Take photos (if allowed)
 - 6.Get a certificate or letter from the person you worked

YOGA

Do the Following Yoga every day:-

- 1)Asanas :Technique , Benefits ,Precautions
- 2)Pranayama:Technique,Benefits,Precautions
- 3)Bandhas :Technique,Benefits,Contradictions.

Practice all the asanas every morning

- 1)Warm up
- 2)Surya Namaskar
- 3)Dhanurasana
- 4)Shalabhasana
- 5)Halasana
- 6)Mayurasana
- 7)Chakrasana
- 8)Natrajasana
- 9)Shavasana

Prnayama

- 1)Nadi Shodhan
 - 2)Ujjayi Pranayam
 - 3)Bhastrika
 - 4)Kapalbharti
- Shavasanas

Fine Arts

1. Make any two posters on A3 size cartridge sheet with water/poster colours.
 - a.Save the planet
 - b.Stop violence against females
 - c.Pollution
 - d.Save water
 - e.Wild life
 - f.Save trees
2. Prepare a painting on A3 size ivory sheet with madhubani art with mix colour media.
3. Make 5-5 flowers with leaves with different coloured paper for board decoration.
4. Prepare 2 decorative paper bags with handmade sheets.