



HOLIDAY HOMEWORK

CLASS 12

“Green Minds, Creative Hands – Let’s Make Homework Earth-Friendly!”

In line with our Green Policy, we encourage all students to prepare their Holiday Homework (HHW) using only biodegradable and eco-friendly materials. Say no to plastic files, folders, and thermocol—HHW in such materials will not be accepted. To promote creativity and environmental responsibility, extra credits will be awarded for innovative use of sustainable resources. Let’s join hands to protect our planet while making learning fun and meaningful!

HOLIDAY HOMEWORK
CLASS XII
ENGLISH

Ques 1: "In the light of Alphonse Daudet's 'The Last Lesson,' discuss how the destiny of a nation is shaped in its classrooms. Write an essay in about 1500-2000 words supporting your views with examples from history, literature, and personal or popular experiences."

1. Introduction

Begin with a strong opening statement about the power of education.

Mention how Alphonse Daudet's "The Last Lesson" shows the importance of language and learning in shaping national identity.

Clearly state your thesis: Classrooms are the true foundation where a nation's future is built.

2. Connection to "The Last Lesson"

Briefly summarize the story.

Highlight how losing the right to learn their language (French) was like losing a part of their nationhood.

Show how the classroom becomes a symbol of resistance and hope.

3. Historical Examples

India's Freedom Struggle: Role of education and educated leaders (e.g., Gandhi, Nehru).

Post-Revolution America: How educational reforms shaped the young democracy.

Germany post-WWII: Rebuilding national identity through educational reforms.

4. Examples from Literature

Helen Keller: How education transformed her life and inspired millions.

Malala Yousafzai's Story: Modern-day example of fighting for education to secure a nation's future.

Connect these examples back to the idea of classroom education shaping society.

5. Popular and Personal Experiences

Mention modern examples:

Importance of literary movements.

Role of teachers and good schooling today (e.g., inspiring leaders, scientists, social reformers).

Share a personal view or anecdote:

A teacher who changed your thinking or made you feel proud of your identity.

6. Critical Analysis

Discuss what happens when education is neglected (poverty, instability, loss of national pride).

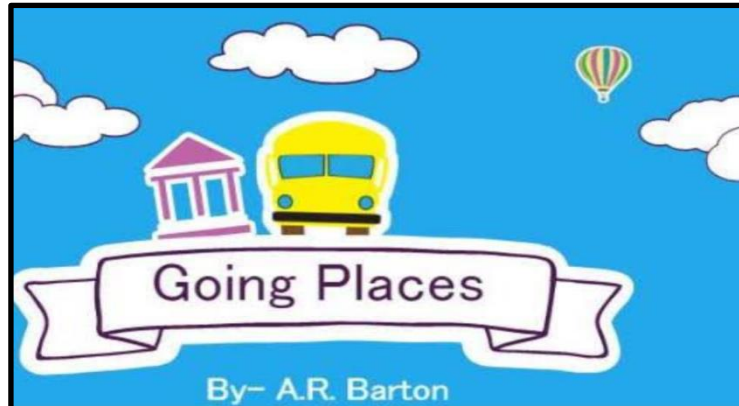
Stress the responsibility of both teachers and students.

7. Conclusion

Reaffirm the importance of classrooms in shaping not just individuals, but entire nations.
End with a hopeful message: Empowered classrooms lead to empowered nations.

Ques 2: "Prepare a two-minute podcast on the theme of hero worship, using A. R. Barton's short story 'Going Places' as the base.

In your podcast, briefly introduce the concept of hero worship – why people, especially youngsters, admire celebrities and build dreams around them.



Discuss how Sophie's fascination with footballer Danny Casey is an example of hero worship.

Explain how her imagination creates unrealistic expectations and affects her reality.
Use examples from the story to highlight the dangers and beauty of dreaming about heroes.
Conclude by giving your own opinion: Is hero worship always harmful, or can it be inspiring too?"

Suggested structure for their podcast:

1. Introduction (20-30 seconds):

Define hero worship.

Introduce 'Going Places' and Sophie's character.

2. Main Body (1 minute):

Explain Sophie's dreams about meeting Danny Casey.

Mention how she imagines conversations and meetings that didn't happen.

Talk about how her belief affects her relationship with family and friends (especially Geoff).

3. Conclusion (30 seconds):

Reflect on whether hero worship is good or bad.

Give a personal opinion on balancing dreams and reality.

Ques 3: After reading any book from the list provided, write a detailed book review in 2000-2500 words. Your review must include a creative book jacket (cover design with title, author's name, and artwork) and should cover the following points:

- Brief summary of the plot
- Description of the setting (time and place)

- Detailed analysis of main characters and their development
- Major themes and messages of the book
- Personal opinion and critical evaluation
- Favorite quotes or scenes
- Recommendation: Who would you suggest this book to and why?

CURATED COMPILATIONS

- The Catcher in the Rye
- Lord of the Flies
- The Thorn Birds
- Gone with the Wind
- The Godfather
- Kane and Abel
- Siddhartha
- The Kite Runner
- The Power of Now
- Freakonomics
- Vagabonding

CLASSIC FAVOURITES NOVELS

- Moby Dick
- The Scarlet Letter
- The Great Gatsby
- To Kill a Mockingbird

TOP BRITISH NOVELS

- Pride and Prejudice
- Wuthering Heights
- Mayor of Casterbridge
- Oliver Twist
- Mill on the Floss
- Napoleon Hill

Holidays Homework

Subject- Physics

Class XII

1. Revise all the chapters done in the class and complete the assignment : 3-Current Electricity and 4-Magnetic effects of current
2. **INDIVIDUAL PROJECT WORK:** - Prepare working model or a project of Investigatory nature. Also prepare its project file explaining the Aim, Apparatus Used, Principle, Observation & Calculation, Conclusion, other Applications of the concept used and Bibliography.

Suggested Topics

- **Static Charge:** -

1. calculating charge-Styrofoam balls

- **Current electricity:** -

1. Efficiency of bulbs
2. Factors affecting resistance
3. Factors affecting the internal resistance of cell
4. Factors affecting the E.M.F of a cell
5. Thermoelectric effects of current
6. Function and usage of photo resistor

- **Magnetic effects of current & magnetism**

1. Curie Law-Verification
2. Magnetic field of earth-null point
3. Transformer- efficiency & losses
4. Eddy currents-minimization
5. EMI- dynamo etc.
6. Tangent galvanometer
7. Electromagnets

- **Optics**

1. Refractive index of liquid-hollow prism, liquid lens, hollow glass slab.
2. Microscope/Telescope-magnification
3. Laser light experiment
4. Diffraction-finding λ
5. Mirror & lenses-combination & special effects
6. Polarization of light

- **Semiconductor devices**

1. Transistor functioning
2. Any electronic circuit
3. Transistor as switch
4. Logic gates

Class XII
Chemistry
Summer Vacation
Holiday Home Work
2025-26

1. Revise all the topics covered till the end of Extra classes thoroughly (**Theory and Practicals both**).
2. Do all the solved intext problems and Back Exercises of NCERT Textbook Unit – **Solutions, Electrochemistry, Chemical Kinetics**.
3. **INDIVIDUAL PROJECT WORK:** - Prepare working model or a project of Investigatory nature. Also prepare its project file explaining the Aim, Apparatus Used, Principle, Observation & Calculation, Conclusion, other Applications of the concept used and Bibliography.

Suggested Topics

1. Analysis of Cough Syrup
2. Comparative study and qualitative analysis of different brands of Cold Drinks
3. Preparation of Sanitizer
4. Preparation of Dyes
5. Analysis of different samples of vinegar
6. To study the quantity of casein present in different samples of milk
7. Preparation of Soya milk and its comparison with other natural milk
8. Analysis of Chocolate
9. To study the presence of oxalate ion content Guava Fruit at different stages of ripening
10. To study and compare the rate of fermentation of apple juice and carrot juice
11. Study the constituents of alloy
12. To analyze the given sample of commercial antacids by determining the amount of HCl they can neutralize
13. Finger print development
14. To analyze the sample of honey for the presence of different minerals and carbohydrates
15. To study the presence of sugar in sugar free sweets

HOLIDAYS HOMEWORK CLASS XII C
SESSION 2025-26
BIOLOGY (044)

1. Observe at least 10 flowers of the following plants (or any others available to you): Cucumber, Mango, Peepal, Coriander, Papaya, Onion, Cotton, Rose, Lemon, Eucalyptus, Banana. Try to find out which animals visit them and whether they could be pollinators. (You'll have to patiently observe the flowers over a few days and at different times of the day.)

You could also try to see whether there is any correlation in the characteristics of a flower to the animal that visits it. Carefully observe if any of the visitors come in contact with the anthers and the stigma as only such visitors can bring about pollination. Many insects may consume pollen or the nectar without bringing about pollination. Such floral visitors are referred to as pollen/nectar robbers.

Click pictures of the pollinators visit and submit as ppt. The slides should include general and scientific name of the plant, type of pollinator(s), type of pollination and type of flower alongwith clicked pictures.

2. Draw well labelled diagrams of the following from NCERT in your assignment copy-
Figure 1.3 (a) Transverse section of a young anther; (b) Enlarged view of one microsporangium showing wall layers; (c) A mature dehiscent anther

Figure 1.8 (a) Parts of the ovule showing a large megaspore mother cell, a dyad and a tetrad of megaspores; (b) 2, 4, and 8-nucleate stages of embryo sac and a mature embryo sac; (c) A diagrammatic representation of the mature embryo sac.

Figure 1.13 (a) Fertilised embryo sac showing zygote and Primary Endosperm Nucleus (PEN); (b) Stages in embryo development in a dicot [shown in reduced size as compared to (a)]

Figure 1.14 (a) A typical dicot embryo; (b) L.S. of an embryo of grass

3. Finalise the topic and the design of the class XII board project. The project has to be investigatory / survey based. The submission of the final project black and white print will be due in half yearly exam. You could explore the link provided for the same.

☐ The project report should be prepared in the following sequence- ☐ Cover page should include the title of the Project, student information, school and year. ☐ Certificate ☐ Acknowledgement ☐ Index ☐ Project Content ☐ Case study/Graphical interpretation ☐ Conclusion and Bibliography

4. Revise all chapters thoroughly. Complete the back exercise and worksheets in the notebook.

Holidays Homework

Class XII – Computer Science

Session: 2024-25

Task 1: Group Presentation

Topic: Computer Networks and Web Services

Instructions:

Form groups of **2 to 4 students** and prepare a presentation based on the following units:

Topics to Cover (minimum 15 content slides):

- Introduction to Computer Networks
- Evolution of Networking: ARPANET, NSFNET, INTERNET
- Data Communication Terminologies (Sender, Receiver, Protocols, etc.)
- Transmission Media (Wired and Wireless)
- Network Devices (Modem, Switch, Router, etc.)
- Network Types and Topologies
- Network Protocols (HTTP, TCP/IP, FTP, etc.)
- Introduction to Web Services (WWW, HTML, XML, etc.)

Note: Include a **Welcome slide** and a **Thank you slide** separately. Use diagrams, flowcharts, and real-life examples to make it interactive. Be ready to present it in class after the vacation.

Task 2: Research-Based Report Writing

Choose **any two topics** from the list below and write a detailed report (800–1000 words each).

The report must be **handwritten** and in **your own words**.

✓ Suggested Topics:

1. **The Evolution of Networking**
 - Focus on ARPANET, NSFNET, and the development of the Internet.
2. **Understanding Data Communication**
 - Explain sender/receiver, bandwidth, IP address, and switching techniques.
3. **Comparison of Transmission Media**
 - Wired vs Wireless communication with pros/cons and examples.
4. **The Role of Network Devices**
 - Functions and examples of modem, router, switch, hub, etc.
5. **Exploring Network Topologies and Types**
 - Explain types of networks (LAN, WAN, etc.) and topologies (Bus, Star, Tree).
6. **Importance of Network Protocols**
 - Describe how protocols like HTTP, TCP/IP, FTP, and VoIP function.
7. **Introduction to Web Services**
 - Discuss WWW, HTML/XML, domain names, browsers, and hosting.

Important: Use your own understanding, book references, and internet research to write the reports. **Plagiarism, AI-generated, or copy-paste content will not be accepted.**

Submission Guidelines:

- All tasks must be submitted in a **well-organized folder**.
- Handwritten reports should be neat and properly labeled.
- Presentations must be shared digitally (via pen drive, email, or Google Drive) and submitted as PPT or PDF format.
- **Last Date for Submission:** *[Insert Date]*

HOLIDAY HW CLASS 12**2025-26****MATHS****SECTION A****MATRICES AND DETERMINANTS**

| | | |
|---|---|--|
| 1 | <p>If a matrix has 36 elements, the number of possible orders it can have, is :</p> <p>(A) 13 (B) 3</p> <p>(C) 5 (D) 9</p> | 65/1/ 1 65/1/ 2 65/1/ 3 |
| 2 | <p>If $\begin{bmatrix} x+y & 2 \\ 5 & xy \end{bmatrix} = \begin{bmatrix} 6 & 2 \\ 5 & 8 \end{bmatrix}$, then the value of $\left(\frac{24}{x} + \frac{24}{y}\right)$ is :</p> <p>(A) 7 (B) 6</p> <p>(C) 8 (D) 18</p> | 65/1/ 1 65/1/ 2 65/1/ 3 |
| 3 | <p>$\begin{vmatrix} x+1 & x-1 \\ x^2+x+1 & x^2-x+1 \end{vmatrix}$ is equal to :</p> <p>(A) $2x^3$ (B) 2</p> <p>(C) 0 (D) $2x^3 - 2$</p> | 65/1/ 1 65/1/ 3 |
| 4 | <p>If A and B are two non-zero square matrices of same order such that $(A+B)^2 = A^2 + B^2$, then :</p> <p>(A) $AB = O$ (B) $AB = -BA$</p> <p>(C) $BA = O$ (D) $AB = BA$</p> | 65/1/ 1 65/1/ 2 |
| 5 | <p>Assertion (A) : For matrix $A = \begin{bmatrix} 1 & \cos \theta & 1 \\ -\cos \theta & 1 & \cos \theta \\ -1 & -\cos \theta & 1 \end{bmatrix}$, where $\theta \in [0, 2\pi]$,</p> <p>$A \in [2, 4]$.</p> <p>Reason (R) : $\cos \theta \in [-1, 1], \forall \theta \in [0, 2\pi]$.</p> | 65/1/ 1 65/1/ 2 65/1/ 3 |

| | | |
|---|---|--|
| 6 | <p>(a) If $A = \begin{bmatrix} 1 & -2 & 0 \\ 2 & -1 & -1 \\ 0 & -2 & 1 \end{bmatrix}$, find A^{-1} and use it to solve the following system of equations :</p> <p>$x - 2y = 10, 2x - y - z = 8, -2y + z = 7$</p> | <p>65/1/ 1 65/1/ 2 65/1/ 3</p> |
|---|---|--|

| | | |
|----|--|--|
| 7 | <p>If $A = \begin{bmatrix} -1 & a & 2 \\ 1 & 2 & x \\ 3 & 1 & 1 \end{bmatrix}$ and $A^{-1} = \begin{bmatrix} 1 & -1 & 1 \\ -8 & 7 & -5 \\ b & y & 3 \end{bmatrix}$,</p> <p>find the value of $(a + x) - (b + y)$.</p> | 65/1/ 1 65/1/ 2 65/1/ 3 |
| 8 | <p>If a_{ij} and A_{ij} represent the $(ij)^{\text{th}}$ element and its cofactor of $\begin{bmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{bmatrix}$ respectively, then the value of $a_{11} A_{21} + a_{12} A_{22} + a_{13} A_{23}$ is :</p> <p>(A) 0 (B) -28 (C) 114 (D) -114</p> | 65/1/ 2 |
| 9 | <p>If matrices A and B are of order 1×3 and 3×1 respectively, then the order of $A'B'$ is :</p> <p>(A) 1×1 (B) 3×1 (C) 1×3 (D) 3×3</p> | 65/1/ 3 |
| 10 | <p>If the sum of all the elements of a 3×3 scalar matrix is 9, then the product of all its elements is :</p> <p>(A) 0 (B) 9 (C) 27 (D) 729</p> | 65/2/ 1 65/2/ 2 65/2/ 3 |
| 11 | <p>If $\begin{vmatrix} -a & b & c \\ a & -b & c \\ a & b & -c \end{vmatrix} = kabc$, then the value of k is :</p> <p>(A) 0 (B) 1 (C) 2 (D) 4</p> | 65/2/ 1 65/2/ 2 65/2/ 3 |

| | | |
|--------|--|--|
| 1 2 | <p>If $A = [a_{ij}]$ be a 3×3 matrix, where $a_{ij} = i - 3j$, then which of the following is false ?</p> <p>(A) $a_{11} < 0$ (B) $a_{12} + a_{21} = -6$ (C) $a_{13} > a_{31}$ (D) $a_{31} = 0$</p> | 65/2/ 1 65/2/ 3 |
| 1 3 | <p>If $F(x) = \begin{bmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{bmatrix}$ and $[F(x)]^2 = F(kx)$, then the value of k is :</p> <p>(A) 1 (B) 2 (C) 0 (D) -2</p> | 65/2/ 1 65/2/ 2 |
| 1 4 | <p>Assertion (A) : For any symmetric matrix A, $B'AB$ is a skew-symmetric matrix.</p> <p>Reason (R) : A square matrix P is skew-symmetric if $P' = -P$.</p> | 65/2/ 1 65/2/ 2 65/2/ 3 |
| 1 5 | <p>Solve the following system of equations, using matrices :</p> $\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4, \quad \frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1, \quad \frac{6}{x} + \frac{9}{y} - \frac{20}{z} = 2$ <p>where $x, y, z \neq 0$</p> | 65/2/ 1 65/2/ 3 |
| 1 6 | <p>If $A = \begin{bmatrix} 1 & \cot x \\ -\cot x & 1 \end{bmatrix}$, show that $A' A^{-1} = \begin{bmatrix} -\cos 2x & -\sin 2x \\ \sin 2x & -\cos 2x \end{bmatrix}$.</p> | 65/2/ 1 65/2/ 3 |
| 1 7 | <p>The number of all scalar matrices of order 3, with each entry $-1, 0$ or 1, is :</p> <p>(A) 1 (B) 3 (C) 2 (D) 3^9</p> | 65/2/ 2 |
| 1 8 | <p>If $A = \begin{bmatrix} 5 & 0 & 4 \\ 2 & 3 & 2 \\ 1 & 2 & 1 \end{bmatrix}$ and $B^{-1} = \begin{bmatrix} 1 & 3 & 3 \\ 1 & 4 & 3 \\ 1 & 3 & 4 \end{bmatrix}$, find $(AB)^{-1}$.</p> <p>Also, find $(AB)^{-1}$.</p> | 65/2/ 2 |

| | | |
|--------|---|--|
| 1 9 | <p>Given $A = \begin{bmatrix} 1 & 1 & 1 \\ 2 & 3 & 2 \\ 1 & 1 & 2 \end{bmatrix}$, find A^{-1}. Use it to solve the following system of equations :</p> $\begin{aligned} x + y + z &= 1 \\ 2x + 3y + 2z &= 2 \\ x + y + 2z &= 4 \end{aligned}$ | 65/2/ 2 |
| 2 0 | <p>If for the matrix $A = \begin{bmatrix} \tan x & 1 \\ -1 & \tan x \end{bmatrix}$, $A + A' = 2\sqrt{3}I$, then the value of $x \in \left[0, \frac{\pi}{2}\right]$ is :</p> <p>(A) 0 (B) $\frac{\pi}{4}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{6}$</p> | 65/2/ 3 |
| 2 1 | <p>If $A = [a_{ij}]$ is an identity matrix, then which of the following is true ?</p> <p>(A) $a_{ij} = \begin{cases} 0, & \text{if } i=j \\ 1, & \text{if } i \neq j \end{cases}$ (B) $a_{ij} = 1, \forall i, j$ (C) $a_{ij} = 0, \forall i, j$ (D) $a_{ij} = \begin{cases} 0, & \text{if } i \neq j \\ 1, & \text{if } i=j \end{cases}$</p> | 65/3/ 1 65/3/ 2 65/3/ 3 |
| 2 2 | <p>Let $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ be a square matrix such that $\text{adj } A = A$. Then, $(a + b + c + d)$ is equal to :</p> <p>(A) $2a$ (B) $2b$ (C) $2c$ (D) 0</p> | 65/3/ 1 65/3/ 2 65/3/ 3 |
| 2 3 | <p>If A and B are two skew symmetric matrices, then $(AB + BA)$ is :</p> <p>(A) a skew symmetric matrix (B) a symmetric matrix (C) a null matrix (D) an identity matrix</p> | 65/3/ 1 65/3/ 3 |
| 2 4 | <p>If $\begin{vmatrix} 1 & 3 & 1 \\ k & 0 & 1 \\ 0 & 0 & 1 \end{vmatrix} = \pm 6$, then the value of k is :</p> <p>(A) 2 (B) -2 (C) ± 2 (D) ∓ 2</p> | 65/3/ 1 65/3/ 2 |

| | | | |
|--------------|---|--|--|
| 2 10 5 | P | <p>If $A = \begin{bmatrix} 2 & 0 & 0 \\ 0 & 3 & 0 \\ 0 & 0 & 5 \end{bmatrix}$, then A^{-1} is :</p> <p>(A) $\begin{bmatrix} \frac{1}{2} & 0 & 0 \\ 0 & \frac{1}{3} & 0 \\ 0 & 0 & \frac{1}{5} \end{bmatrix}$</p> <p>(C) $\frac{1}{30} \begin{bmatrix} 2 & 0 & 0 \\ 0 & 3 & 0 \\ 0 & 0 & 5 \end{bmatrix}$</p> <p>(B) $30 \begin{bmatrix} \frac{1}{2} & 0 & 0 \\ 0 & \frac{1}{3} & 0 \\ 0 & 0 & \frac{1}{5} \end{bmatrix}$</p> <p>(D) $\frac{1}{30} \begin{bmatrix} \frac{1}{2} & 0 & 0 \\ 0 & \frac{1}{3} & 0 \\ 0 & 0 & \frac{1}{5} \end{bmatrix}$</p> | 65/3/ 1 65/3/ 2 65/3/ 3 |
| 2 6 | | <p>Assertion (A) : Every scalar matrix is a diagonal matrix.</p> <p>Reason (R) : In a diagonal matrix, all the diagonal elements are 0.</p> | 65/3/ 1 65/3/ 2 65/3/ 3 |
| 2 7 | | <p>The value of $\begin{vmatrix} 8 & 2 & 7 \\ 12 & 3 & 5 \\ 16 & 4 & 3 \end{vmatrix}$ is :</p> <p>(A) 0</p> <p>(B) 2</p> <p>(C) 7</p> <p>(D) -2</p> | 65/3/ 3 |
| 2 8 | | <p>If $A = [a_{ij}] = \begin{bmatrix} 2 & -1 & 5 \\ 1 & 3 & 2 \\ 5 & 0 & 4 \end{bmatrix}$ and c_{ij} is the cofactor of element a_{ij}, then the value of $a_{21} \cdot c_{11} + a_{22} \cdot c_{12} + a_{23} \cdot c_{13}$ is :</p> <p>(A) -57</p> <p>(B) 0</p> <p>(C) 9</p> <p>(D) 57</p> | 65/2/ 2 |
| 2 9 | | <p>If $A = \begin{bmatrix} 1 & 3 \\ 3 & 4 \end{bmatrix}$ and $A^2 - kA - 5I = O$, then the value of k is :</p> <p>(A) 3</p> <p>(B) 5</p> <p>(C) 7</p> <p>(D) 9</p> | 65/2/ 2 65/2/ 3 |

Integrals

Previous Years' CBSE Board Questions

7.2 Integration as an Inverse Process of Differentiation

MCQ

1. $\int \frac{\sec x}{\sec x - \tan x} dx$ equals
- (a) $\sec x - \tan x + c$ (b) $\sec x + \tan x + c$
 (c) $\tan x - \sec x + c$ (d) $-(\sec x + \tan x) + c$ (2023)

VSA (1 mark)

2. Find: $\int \frac{\sin^2 x - \cos^2 x}{\sin x \cos x} dx$ (AI 2017)
3. Write the antiderivative of $\left(3\sqrt{x} + \frac{1}{\sqrt{x}}\right)$ (Delhi 2014)
4. Evaluate: $\int \cos^{-1}(\sin x) dx$ (Delhi 2014)
5. Evaluate: $\int \frac{dx}{\sin^2 x \cos^2 x}$

VSA (1 mark)

12. Find: $\int \frac{2x}{\sqrt[3]{x^2+1}} dx$ (2020)
13. Find: $\int \frac{\sin^6 x}{\cos^8 x} dx$ (AI 2014 C)

SA I (2 marks)

14. Find: $\int \frac{dx}{\sqrt{4x-x^2}}$ (Term II, 2021-22) (Ev)

SA II (3 marks)

15. Find: $\int \frac{\sin x}{\sin(x-2a)} dx$ (Term II, 2021-22 C)
16. Find: $\int \frac{1}{e^x+1} dx$ (Term II, 2021-22)
17. Find: $\int \frac{2x}{(x^2+1)(x^2+2)} dx$ (Term II, 2021-22)

LA I (4 marks)


7.3 Methods of Integration

MCQ


9. $\int e^{5 \log x} dx$ is equal to

- (a) $\frac{x^5}{5} + C$ (b) $\frac{x^6}{6} + C$
(c) $5x^4 + C$ (d) $6x^5 + C$ (2023)

10. $\int x^2 e^{x^3} dx$ equals

- (a) $\frac{1}{3}e^{x^3} + C$ (b) $\frac{1}{3}e^{x^4} + C$
(c) $\frac{1}{2}e^{x^3} + C$ (d) $\frac{1}{2}e^{x^2} + C$ (2020) 

11. $\int \frac{e^x(1+x)}{\cos^2(xe^x)} dx$ is equal to

- (a) $\tan(xe^x) + c$ (b) $\cot(xe^x) + c$
(c) $\cot(e^x) + c$ (d) $\tan[e^x(1+x)] + c$
(2020) 

SA II (3 marks)

28. Find: $\int \frac{e^x}{\sqrt{5-4e^x-e^{2x}}} dx$ (2023)

7.4 Integrals of Some Particular Functions

VSA (1 mark)

22. Find: $\int \frac{dx}{\sqrt{9-4x^2}}$ (2020)

23. Find: $\int \frac{dx}{9+4x^2}$ (2020)

SA I (2 marks)

24. Find: $\int \frac{\sec^2 x}{\sqrt{\tan^2 x + 4}} dx$ (Delhi 2019) 

25. Find: $\int \frac{dx}{\sqrt{5-4x-2x^2}}$ (AI 2019)

26. Find: $\int \frac{dx}{x^2+4x+8}$ (Delhi 2017)

27. Find: $\int \frac{dx}{5-8x-x^2}$ (AI 2017)

45. Find: $\int \frac{\cos \theta}{(4+\sin^2 \theta)(5-4\cos^2 \theta)} d\theta$ (AI 2017)


46. Find: $\int \frac{x^2}{x^4+x^2-2} dx$ (AI 2016)

LA I (4 marks)

29. Find $\int \frac{\sqrt{x}}{\sqrt{a^3 - x^3}} dx$.

(Delhi 2016) 

30. Find $\int (\sqrt{\tan x} + \sqrt{\cot x}) dx$.

(AI 2015, 2014) 

47. Find: $\int \frac{(x^2+1)(x^2+4)}{(x^2+3)(x^2-5)} dx$

(Foreign 2016) 

48. Find: $\int \frac{dx}{\sin x + \sin 2x}$

(Delhi 2015)

Class 12 Political Science – Summer Vacation Homework

Topic: Contemporary World Politics

Objective: To foster critical thinking, research, and real-world application of political science concepts.

Instructions:

1. Work individually; no plagiarism.
 2. Submit on the first day of the new session.
 3. Use diverse resources (books, articles, news, journals).
 4. Submit a well-organized and professionally written assignment.
-

Tasks:

1. Case Study Analysis (20 marks):

Analyze a recent international political event (within the last year). Address:

- Key actors, causes, global implications
- Links to class concepts and possible solutions

2. Comparative Analysis (15 marks):

Compare two political systems (e.g., democracy vs. authoritarianism) on:

- Governance, participation, rights, and economic policies

3. Critical Review (15 marks):

Review a recent scholarly work on global politics. Include:

- Summary, evaluation, strengths/weaknesses, and relevance

4. Policy Brief (20 marks):

As a policy advisor, outline an issue (e.g., climate change) with:

- Background, challenges, evidence-based solutions, pros/cons

5. Creative Presentation (10 marks):

Create a visually engaging presentation on any relevant global political topic.

6. Reflection (10 marks):

Write about your learning experience—skills gained, challenges, and insights.

Submission:

Email in digital format (Word/PDF) with your name, class, and section.

Evaluation:

Based on analysis, clarity, evidence, originality, and adherence to instructions.

HOLIDAY HOME WORK

CLASS XII

SUBJECT: PSYCHOLOGY

Task I: As a CBSE mandate, you are required to build upon the case profile of your subject.

For your case profile, after checking that the subject fits the previously mentioned criteria, collect the following information -

1. Subject details -

A) Preliminary information-

Name, age, sex , address etc

B) Physical self -

Height, weight, hair, complexion etc. (you can elaborate upon other sub headings the way you wish)

2. Family history -

Immediate family -

Name, age, qualifications and profession of each member.

Paternal family-

Name of each member, along with age, qualifications and profession

Eg-

Grandfather

Mr. Trilok Nath

67 years

Graduate

Retired as chief administrative officer

This has to be done for each member

Maternal family - same as above

3. Birth history -

DOB, mother's pregnancy journey, any complications , birth weight of baby etc.

Take this information from mother.

4. Childhood history- (age 2 to 11 years)

Memorable experiences , saddening experiences ,challenges , how did you overcome them etc

4. Adolescent history- 11 years till 17 years)

Elaborate upon all four headings above.

5. Adult history- in case your subject is above 18

Elaborate upon all 4 headings as above.

6. Relationships

Relation with father, mother, sibling, grandparents, friends etc .

Each heading has to be elaborated upon separately

7. Career aspirations

8. Methology used -

A) observation

B) interview

C)Psychological testing

Two pages of writeup on the above three methods.

Each above stated topic has to be extensively elaborated upon.

The above should atleast be 50 pages.

Paste pictures from the subject' life, however, blur his/her face.

Task II: Revise the following units:

A) Variations in Psychological attributes

B) Self and Personality

Task III: Homework assignment

Do complete the assignments from chapter 1 and 2 in Homework register.

All the above three tasks must be finished during the summer vacations and submitted on July 1, 2025.

Holidays Homework

Class XII – Informatics Practices

Theme: Internet and Cyber World

1. Group Presentation (2 to 4 students)

Topic: “Understanding the World of Networks and Internet”

Prepare a PowerPoint/Google Slides presentation covering the following topics:

- Introduction to Networks
- Types of Networks: PAN, LAN, MAN, WAN
- Network Devices: Modem, Hub, Switch, Repeater, Router, Gateway
- Network Topologies: Star, Bus, Tree, Mesh
- Introduction to Internet: URL, WWW, and Applications – Web, Email, Chat, VoIP
- Website and Webpage: Static vs Dynamic, Web Hosting
- Web Browsers: Popular Browsers, Settings, Add-ons, Plug-ins, Cookies
- Digital Footprint and Communication Etiquettes

Requirements:

- Minimum 15 content slides (excluding “Welcome” and “Thank You” slides)
- Each group will present their slides in class
- Use visual diagrams wherever possible
- Keep the content original and concise

2. Research Report (Handwritten)

Choose any Two of the following and write a detailed report (800–1000 words each):

a. Digital Citizenship and Online Behavior

Cover digital footprints, communication etiquettes, and responsible use of the internet.

b. Cybersecurity and Legal Aspects

Explore cybercrimes, cyber laws, hacking, phishing, cyberbullying, Indian IT Act.

c. Intellectual Property and Open Source Culture

Discuss plagiarism, IPR, software licensing, and Free and Open Source Software (FOSS).

d. E-waste and Health Hazards from Technology

Research how e-waste is generated, its environmental impact, and health concerns due to prolonged tech usage.

Instructions:

- Submit handwritten reports in your own words.
- Do **not** use AI or copy-pasted internet content.
- Include a title page, index, and proper headings/subheadings.
- Use examples and diagrams where necessary.

Holidays Homework 2025-26

Holidays Homework

CLASS XII BUSINESS STUDIES

Project files to be prepared by the students for board exams practical.

Specification for Project file to be prepared for board exams.

- a) Individual Projects to be prepared.
- b) Students are expected to conduct research work and show evidence for their research work in their Project File
- c) Data related to topics should be based on field work, textbooks and not be just taken from Google & Wikipedia. Students are requested to read relevant books, journals, magazines, newspaper related to their topics.
- d) Length of the project-40 to 50 pages and it must be handwritten.
- e) Submission date- 6.07.2024

Students are supposed to select one unit out of 4 and are required to make only ONE project from the selected unit. (Consist of one project of 20 marks)

- a) Business Environment**
- b) Marketing**
- c) Principles of management**
- d) Stock Exchange**

Details about the project can be found in the following link:-

https://cbseacademic.nic.in/web_material/CurriculumMain24/SrSec/BusinessStudies_SrSec_2023-24.pdf

- e) And further discussion with the subject teacher.**

Allocation of Marks = 20 Marks

The marks will be allocated under the following heads:

| | | |
|---|---|-----------------|
| 1 | Initiative, cooperativeness and participation | 2 Mark |
| 2 | Creativity in presentation | 2 Mark |
| 3 | Content, observation and research work | 4 Marks |
| 4 | Analysis of situations | 4 Marks |
| 5 | Viva | 8 Marks |
| | Total | 20 Marks |

CHAPTER-1 NATURE AND SIGNIFICANCE OF MANAGEMENT

1 Marker Questions

1. Saransh company's target production is 8,000 units in a year. To achieve this target the manager has to operate on double shifts due to power failure most of the time.

The manager is able to produce 8000 units but at a higher production cost. In the above case tell the status of the manager.

- (a) Manager was effective**
- (b) Manager was effective but not efficient**
- (c) Manager was efficient**
- (d) Manager was efficient but not effective**

2. The goal of the Radha retail store is to increase sales and the goal of the Spastics Society of India is to impart education to children with special needs. Management unites the efforts of different individuals in the organisation towards achieving these goals. Identify the characteristics of management discussed above.

- (a) Management is all pervasive.**
- (b) Management is multi-dimensional.**
- (c) Management is a goal oriented process.**
- (d) Management is a continuous process.**

3. In a factory, a product is manufactured, in a garment store a customer's need is satisfied and in a hospital a patient is treated. Management translate their work in terms of goals to be achieved and assigns the means to achieve it. Identify the dimension of management discussed here.

- (a) Management of operations**
- (b) Management of work**

(c) Management of people

(d) None of these above

4. In order to be successful, an organisation must change itself and its goals according to the needs of the environment. Regarding this we have the example of McDonalds, the fast food giant made major changes in its menu to be able to survive in the Indian market. Identify the characteristics of management mentioned in the above case.

(a) Management is an intangible force.

(b) Management is a dynamic function.

(c) Management is a group activity.

(d) Management is a continuous process.

5. Jyoti Ltd. decided to give more stress on the following: to use environmental friendly methods of production, to provide employment opportunities to the disadvantaged section of the society and to make available basic amenities like schools and creches to the employees. Identify the objective of management discussed above.

(a) Organisational objective

(b) Personal objective

(c) Social objective

(d) None of the above

6. The management of Roshan Pvt. Ltd. helps the staff members adapt to environmental changes so that the organisation is able to maintain its competitive edge. It is one of the reasons that have made management so important. Identify it.

(a) Management helps in achieving group goals.

- (b) Management increases efficiency.**
- (c) Management creates a dynamic organization.**
- (d) Management helps in achieving personal objectives.**

7. Read the text given below and answer the questions (i-in) based on it.

Three groups of employees of 'Gama Limited' are working at different posts. The first group of employees is responsible for the welfare and survival of the organisation. In order to discharge its responsibility properly, this group continuously keeps a watch over the Business Environment. With a view to coping with the changes going on in the Business Environment, this group immediately discusses the change to be brought about in the company's plans. The second group of employees is responsible for maintaining quality and safety standards, and minimising wastages. The responsibility of third group of employees is to explain the policies decided by the top management and developing the feeling of cooperation among all the departments of the company.

(i) Identify the concept of management described in the paragraph given above:

- (a) Functions of management**
- (b) Nature of management**
- (c) Levels of management**
- (d) Coordination**

(ii) "The first group of employees is responsible for the welfare and survival of the organisation." The above statement is related to which level of management?

- (a) Top Level Management**
- (b) Lower Level Management**

(c) Middle

(d) None of these

(iii) "The second group of employees is responsible for maintaining quality and safety standards, and minimising wastages."

The above statement highlighted the _____ level of management?

(a) Top

(c) Lower

(b) Middle Level Management

(d) Both (b) and (c)

(iv) "The responsibility of third group of employees is to explain the policies decided by the top management and developing the feeling of cooperation among all the departments of the company."

The above statement explained the functions of the _____

(a) Lower

(b) Middle

(c) Both (a) and (b)

(d) None of these

3 Marks Questions

8. Certain persons who had done their MBA established 'Alpha Limited' with the aim of earning justifiable profit and doing service to the society. In order to run their business successfully they took the help of several people. The people working in the company were doing different activities. Their activities were different, but their aim was the same. Here the need was to continue putting in such efforts as may not

let the people lose their aim. Therefore, the arrangement made in the company was such that the efforts of all the people may lead them towards the same path.

(a) Identify the feature of management described in the paragraph given above.

(b) Also explain two more features of management.

9. The Principal of 'Shivaji Public School, Shri Rakesh Mohan, set up the goal of 'Quality Education' for his school. For the realisation of this goal he made several plans. His special focus was on the satisfaction of employees. At the end of the year it was found that all his activities were done successfully in accordance with the plans made. It took no time for the people to know the news that the school had accomplished its goal of quality education. Everyone said that it was a miracle performed by the school management.

(a) Identify the feature of management referred to in the above paragraph.

(b) Also explain two more features of management.

10. Mita has a successful ice cream business at Bikaner, namely 'Smartflavours'. Her ice creams are utterly delicious. She makes ice creams from fresh milk and the same are available in a wide range of flavours and packs. She sets viable business objectives and works with the same in mind in order to ensure that the customers will come back for purchasing. Having the first mover advantage, her business was doing well. To earn higher profits, she started cutting costs. This would sometimes lead to delay in delivery and the ice cream was not reaching the market in time. Over a period of time, the demand for her ice cream declined and because of it the competitors entered the market. She lost some of her market share to competitors. At the beginning of summer season, she got back to back orders for supply of 4,000 ice cream packs of different flavours for special occasions. To ensure that the task

was completed and orders delivered in time she hired additional workers. She was, thus able to produce and deliver the ice cream packs but at a high production cost.

While completing activities and finishing the given task for achieving goals, Mita realised that she was ignoring one of the important aspects of management.

Identify the aspects of management that has been ignored by Mita. Also explain the same with the help of an example.

CHAPTER 11 MARKETING

1. Nayan Medicare Equipment Ltd.' manufactures equipment for surgeons having a unique laser

technique. The equipment can be used by the surgeons only after proper training. Even their maintenance requires guidance of specialised engineers. Because of this, the equipment is used in a limited number of hospitals. The company wants to increase the sale of the equipment.

Suggest the promotion tool to be used by the company giving reason in support of your answer.

2. Beena has been using 'Klean', a famous detergent available in the market on watching numerous advertisements in the television, she decided to try a new brand of detergent. When she went to the nearby store to purchase the same, she saw detergents of other producers making similar claims of whiteness and stain removing abilities. Hence, she could not make up her mind as which detergent to purchase.

Name the objection of advertising being discussed in this case.

3. Explain three factors affecting the pricing of a product.

4. State, giving reason, whether the following statement is true or false :

"Advertising refers to short term incentives which are designed to encourage the buyers to make immediate purchase of a product."

5. Sunita took her niece, Aishwarya for shopping to 'Benetton' to buy her a dress on the occasion of her birthday. She was delighted when on payment for the dress she got a discount voucher to get 20% off for a meal of ₹ 500 or above at a famous eating joint.

Identify the technique of sales promotion used by the company in the above situation.

6. Name the marketing function which is concerned with informing the customers about the firm's products.

7. A TV manufacturing company is spending substantial amount of money to persuade the target customers to buy its T.V. sets through advertisements, personal selling and sales promotion techniques. Identify the element of marketing mix referred here.

8. 'X Ltd.' is engaged in the manufacturing of cars. The company surveyed the market and found that customers need a car which runs on eco-friendly fuel instead of petrol or diesel. Keeping the needs of customers as well as social, ethical and ecological aspects of marketing in mind, the company launched a new model of car that runs on bio-diesel. The launch event was covered by the top news channels and newspapers. This was done to disseminate information about the car and build goodwill of the business. 'X Ltd.' understands that it is imperative to manage public opinion and company's relations with the public on a regular basis.

(a) Identify and explain the marketing philosophy involved in the above case.

(b) Identify and explain the communication tool that was used by the company.

(c) Explain any two other promotional tools that can be used by 'X Ltd.' to achieve its objectives.

9. 'Stay Fit', a probiotic drink was launched in the market by Dabur India Ltd. and is available in various cities across the country. Doctors are recommending it as it is very useful for the stomach. The company is also using various tools to inform and persuade customers about its

product. It has recently started free distribution of its samples to encourage the customers to know about its benefits to buy this probiotic drink in future.

The company has also appointed a large number of salespersons, who contact the prospective buyers

and communicate with them to make sales. This way, the company is able to develop personal

rapport with its customers.

In order to create awareness and to increase its popularity among school children, it also organises workshops for students and teachers. It also arranged visits of students and teachers to the factory to create awareness about the standards of hygiene adopted in processing and packaging, etc. This helps the company to build a positive image of its product in the society. This way the company is using a combination of communication tools to inform and persuade customers about their firm's product.

Identify and explain these tools.

10. You don't close a sale, you open a relationship, if you want to build a long-term successful enterprise.' Identify the communication tool used by the marketer. State any two features of this communication tool.

Subject: Economics Class XII
Holidays homework

TASK -1

1. First step to almost anything is Research. Do thorough analysis of the pattern of exam e.g type of questions asked in the exam.
2. Pick up the detailed syllabus from website(CBSE), get it printed, paste it on your wall. Read the syllabus until it gets imprinted in your mind :D
3. Scrutinize the PYQ's. They are the best source to give you a sense of direction of where to start from? Pick at least last 5 year question papers, segregate the questions subject-wise and then start accordingly.
4. Which books/notes should I refer to? You will have to decide that for yourself. Essentially, it's a matter of discretion.
4. Once you start, the learning should never stop. Some days will be gloomy when you start questioning your own knowledge, some days you'll become an insomniac, and in the worst you will think- is it even worth it? The answer is yes, in the end it's all worth it!

TASK -2

Look for an interesting/innovative Investigatory Project for class 12 project work for CBSE Board exams.

Remember:

1. Every day is the first day of the rest of your life. So, start today with a ☐ and make the most of it.
2. Don't set goals, set habits. Habits build the person we become, goals lay us barren.

Good luck, I wish you all success in all your endeavors.

Holidays Homework

CLASS XII ACCOUNTANCY

PROJECT ON SEGMENT ANALYSIS

Objectives:

To know how effectively the students can derive conclusions and express them.

- To study whether the contribution of various segments of _____ with respect to (i) Revenue, and (ii) Profit, is justified?
 - To know as to which operation segment is performing best in terms of Net Profit and Return on Investment.
- Do all Previous Year Questions from T.S.Grewal from P.E. 1 to 16 and P.E.28 to 52 in fair Note Book.

SOCIOLOGY HOLIDAY HOMEWORK – 2025 - 26

Students to make a project on any social issue following the given guidelines

GUIDELINE FOR SOCIOLOGY PROJECT

PROJECT CARRIES A WEIGHTAGE OF 20 MARKS

IMPORTANT TIPS –

- Keep the class XI sociology book for reference in class XII. You will have to refer chapter 5 of Book 1 for research methods
- Ensure that your project has all the headings and content under all the headings which are mentioned above. You might get few marks more or few marks less depending on your content inside but you still would be assured of reasonably good marks as you would be fulfilling the criteria laid down by CBSE.

SEQUENCE OF PROJECT PRESENTATION/FILE BINDING –

- ❖ Cover page - with project name, year
- ❖ First page should be kept blank as the certificate of completion issued by the teacher would be pasted here.
- ❖ Acknowledgement
- ❖ Hypothesis
- ❖ Rationale
- ❖ Introduction
- ❖ Causes
- ❖ Consequences
- ❖ Case study
- ❖ Methodology
- ❖ Rationale for methodology
- ❖ Implementation
- ❖ Presentation of evidence
- ❖ Analysis and Interpretation
- ❖ Evaluation
- ❖ Conclusion
- ❖ Limitation of the study,
- ❖ Bibliography

HOW TO START A PROJECT –

STEP – 1

- You can choose your own topic or pick up a board topic to build your project
- You have to get the topic approved by the teacher concerned
- Choose the topic once you find sufficient matter available on that topic. Sometimes topic seems interesting but you end up not getting matter on that. So once the topic is decided then your work starts

STEP – 2

- Look out for surveys, research, essays written on your topic. You can look for all these in net
- Try to get thorough understanding of the topic by reading them. This would help you to formulate your hypothesis, technique of doing the project and in fact even conclusion to some extent
- The simplest technique would be to do survey method

STEP – 3 (HYPOTHESIS)

- Try to form Hypothesis in the form of a question
- Hypothesis is your assumption/reason for a certain problem
- For example – Is Nuclear family a reason for increase role of video games in child's life? OR Are video games the reason for decreased social networking amongst the children?

STEP – 4 (RATIONALE FOR METHODOLOGY)

- Write the Rationale – in this page you have to give brief reason for the Hypothesis framed by you.

STEP – 5 (INTRODUCTION)

- Next is writing introduction. This should contain all those matter which relates to your hypothesis.
- It can be of 2 to 3 pages
- This may also include causes and consequences of the project

STEP – 6 (METHODOLOGY)

- In methodology you will have to write the way you plan to do your project
- It can be a case study method, survey method, secondary data etc.
- Easiest method is to conduct a survey

STEP – 7 (RATIONALE & METHODOLOGY)

- In this you have to give reason for selecting/ choosing a particular method.
- Like in survey method you can write that it is easier to get the opinion of many people at a time, it is fastest method of collecting data.
- It is also most structured way of getting data.

STEPS – 8 (IMPLEMENTATION)

- Steps of Implementation – In this you have to write how you went about in the conduction of the project.
- It would start with collection of data related to the subject, reading of the data, analysing the problem, framing the hypothesis, framing the questionnaire, conduction of sample survey (at least of 50 people), restructuring of questionnaire after sample survey and making required correction, doing proper survey of your sample size – which can be approximately 50 people.
- This will be followed by analysis and interpretation.

STEP – 9 (PRESENTATION OF EVIDENCE)

- Here you need to attach your sample questionnaire
- Which will be followed by the filled 75 questionnaire which should be filled by the respondent in their own hand writing

STEP – 10 (ANALYSIS AND INTERPRETATION)

- Now you need to tabulate all the answers
- This may be accompanied by pie chart or bar graphs. Responses have to be written in words below the table.

STEP – 11 (EVALUATION)

- You need to analyse every question one by one. Explain each one of them

STEP – 12 (CONCLUSION)

- Here you would try to give what you think the respondents are trying to say and whether it agrees with the hypotheses which were framed by you or not. It would be your correlation of the responses with the impact of the problem.

STEP – 13 – (LIMITATION of the study)

- In this you will write the difficulties faced by you in conduction of the study.
- Eg – while doing survey many people misplaced or lost the survey forms, or didn't take it seriously etc.

STEP – 14 – (BIBLIOGRAPHY)

- Here you would write the names of all the books, web sites referred by you in conduction of the project