

NEW ERA PUBLIC SCHOOL
Holiday Homework (2026-27)
Class XII
English Core (301)

IMPORTANT INSTRUCTIONS

1.The holiday homework has three parts: Project Work, – Watching/ Listening and Critical

Thinking and Revision Worksheets

2.Students have to choose any one of the given topics for their Project. Project file should follow the format as given below.

3.Worksheets to be done by all the students in the notebook.

4.The Project-Portfolio/Project Report is a compilation of the work that the students produce during the process of working on their Assessment of Listening and Speaking Project.

The project portfolio should include the following:

1.Cover page, with the title of the project, school details/ details of the student

2.Statement of purpose/ objectives/ goals to be achieved

3.Acknowledgement

4.Certificate of completion under the guidance of the subject teacher

5.Index

6.Action plan for the completion of the assignment and Materials such as scripts/ questionnaires for interviews, written assignments, essays, survey reports and other material evidence such as photographs and current images of a current happening/ event/war

7.800-1000 words essay/Report on the chosen topic.

8.Students' reflection

9.List of resources/ bibliography

The Project should be submitted on any one of the following topics.

1.Indian cinema: Analyzing the evolution of Indian cinema and its cultural significance

2.Climate change: Understanding the causes, effects, and possible solutions to the issue of climate change

3. Mental health and wellness: Discussing the importance of mental health and ways to create a healthy environment for all.

4. Farmers Unrest in India: A Historical Perspective.

5. Antarctica- An Insight

6. Are wars the only solution - Impact of wars on the socio- economic conditions culture and education of a country.

Part B – Watching/ Listening and Critical Thinking

1. Watch and Reflect on the following TED Talks and write 150 -200 words for each, summarizing your takeaway from each.

Or

Prepare a report countering or agreeing with the speakers. Write a report in about 150- 200 words.

1. This country isn't just carbon neutral-it's carbon negative: Tshering Tobgay

https://youtu.be/7Lc_dIVrg5M?si=IQSaUpCd4cxKkX2f

2. Discipline and Success: Sudha Murthy

https://youtu.be/vacGRuHDtO0?si=pr4_P0mO3sQnKnwy

3. Be Fearless: Priyanka Chopra <https://youtu.be/aDG1T0kJnd4?si=JcZPUUWUCr4L2RXi>

PART 3 -COMPETENCY BASED QUESTIONS

THE LAST LESSON

1. Assertion- Mr. Hamel focused on the importance of one's language as the key to one's prison.

Reason- Language helps people bind together despite being enslaved under some other foreign rule.

- a. A is true but R is false
- b. Both A and R are true but R is not the correct explanation of A
- c. Both A and R are true and R is the correct explanation of A
- d. A is false but R is true

2. Assertion- Watcher, the blacksmith, taunted Franz that there was enough time before he reached school.

Reason- Watcher had already come to know about the order from Berlin.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

3. Assertion- Mr. Hamel was wearing his best Sunday clothes on the last day of his school.

Reason- Franz realized that Mr. Hamel was a way to honour his last lesson.

- a. A is false but R is true
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. Both A and R are true and R is the correct explanation of A

4. Assertion- The village people were occupying the last benches of the school that day.

Reason- They had come to organize a farewell party for Mr. Hamel.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

5. Assertion- A bulletin-board always serves as the source of bad news during a war.

Reason- All the bad news about the Franco-Prussian War had come from the bulletin-board in Alsace.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

6. Assertion- Mr. Hamel did not scold Franz for not having learnt his lesson. Reason- He blamed the people, the parents and himself for the same.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

7. Assertion- No one in the class was bothered when the beetles flew in.

Reason- Everyone wanted to focus and utilize their last chance of learning French.

- a. A is true but R is false
- b. Both A and R are true but R is not the correct explanation of A
- c. Both A and R are true and R is the correct explanation of A
- d. A is false but R is true

8. Assertion- Mr. Hamel gave all his efforts to impart all his knowledge on the last day of school.

Reason- Mr. Hamel was a dedicated and efficient teacher.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

9. Assertion- Franz didn't want to go to school

Reason- The morning was very beautiful and he wanted to enjoy it.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

10. Assertion- There was a crowd in front of the bulletin board

Rason- There was a fresh news on it

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

11. Assertion- The French teacher, M. Hamel wore his fine Sunday clothes. Reason- It was in honour of his last French Lesson.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

POEM - MY MOTHER AT Sixty- Six

1. ...I saw my mother, beside me, doze, open mouthed, her face ashen like that of a corpse and realised with pain that she was as old as she looked but soon put that thought away, and looked out at Young Trees sprinting, the merry children spilling out of their homes, i Why does the poet compare her mother's face to a corpse? Answer in one sentence.

.....
.....

- ii What effect does the phrase 'open mouthed' have on the poem? A. It builds a mood of surprise and shock in the poem.
B. It reveals the speaker's fear of her own death and mortality.
C. It adds to the imagery of the speaker's mother appearing dead.
D. It highlights the speaker's attempt at hiding her emotions from her mother.

.....
.....

iii Complete the given sentence appropriately.

The contrast present in the given extract is between _____.

.....
.....

iv State a reason for the following.

The speaker looks out of the window while travelling with her mother.

.....
.....

v Which of these phrases uses the same poetic device as the following line from the extract? looked out at Young Trees sprinting...

- A. that restaurant is as nice as the Big Fish
- B. the pen became my highway to success
- C. that fluffy cloud crying with sadness
- D. the tall trees with many branches

.....
.....

vi Why do you think the poet has placed the word 'pain' on a separate line? Give a reason.

.....
.....

2.Assertion- Mother was as old as she looked

Reason- She was pale and looked like a corpse.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

3.Assertion- The poet looked out at Young Trees sprinting, the merry children spilling

Reason - The outside view was more interesting

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

CHAPTER – THE THIRD LEVEL

1. Read the given extract and answer the questions given.

The presidents of the New York Central and the New York, New Haven and Hartford railroads will swear on a stack of timetables that there are only two. But I say there are three, because I've been on the third level of the Grand Central Station. Yes, I've taken the obvious step: I talked to a psychiatrist friend of mine, among others. I told him about the third level at Grand Central Station, and he said it was a waking-dream wish fulfillment. He said I was unhappy. That made my wife kind of mad, but he explained that he meant the modern world is full of insecurity, fear, war, worry and all the rest of it, and that I just want to escape. Well, who doesn't? Everybody I know wants to escape, but they don't wander down into any third level at Grand Central Station.

.....
.....

i Complete the given sentence appropriately. Unlike the two levels that have 'a stack of timetables' to prove their existence, the third level has _____.

.....
.....

ii ***Yes, I've taken the obvious step.***

What is the narrator assuming that the reader is thinking when he says the above line?

.....
.....

iv Based on the extract, what does the narrator think about the psychiatrist's opinion?

2. Assertion- I've been on the third level of the Grand Central Station..

Reason - He goes to consult a psychiatrist.

- e. Both A and R are true and R is the correct explanation of A
- f. Both A and R are true but R is not the correct explanation of A
- g. A is true but R is false
- h. A is false but R is true

3. Assertion- The modern world is full of insecurity, fear, war, worry Reason- Charlie wanted to escape the real world.
- Both A and R are true and R is the correct explanation of A
 - Both A and R are true but R is not the correct explanation of A
 - A is true but R is false
 - A is false but R is true

CHAPTER - LOST SPRING

Read the extract and answer the Questions :

A. "His dream looms like a mirage amidst the dust of streets that fill his town Firozabad, famous for its bangles. Every other family in Firozabad is engaged in making bangles. It is the centre of India's glass-blowing industry where families have spent generations working around furnaces, welding glass, making bangles for all the women in the land it seems."

- Mirage here means _____
 - An aeroplane
 - A hope that cannot be achieved
 - An image seen in hot weather in the deserts
 - none of these
- Why every other family in Firozabad is engaged in making bangles?
 - They don't know any other work
 - Firozabad is the centre of India's glass-blowing industry
 - They don't dare do anything else
 - All of these
- Why does the author say that "making bangles for all the women in the land it seems"?
- Find a synonym of fireplace.

5(i) Assertion- Firozabad is famous for making bangles

Reason- Every family in Firozabad is engaged in bangle making.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

(ii) Assertion- The bangle makers are exploited by the middlemen and bureaucracy.

Reason- Many of them do not even have a roof over their heads.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

C. "My acquaintance with the barefoot ragpickers leads me to Seemapuri, a place on the periphery of Delhi yet miles away from it, metaphorically. Those who live here are squatters who came from Bangladesh back in 1971. Saheb's family is among them. Seemapuri was then a wilderness. It still is, but it is no longer empty. In structures of mud, with roofs of tin and tarpaulin, devoid of sewage, drainage or running water, live 10,000 ragpickers. They have lived here for more than thirty years without an identity, without permits but with ration cards that get their names on voters' lists and enable them to buy grain."

i. Assertion- Saheb's family had come from Bangladesh.

Reason- They are happy now as they have good houses and jobs.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

ii. Assertion – They do not have any identities

Reason - They have their names in the voters' list.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. A is false but R is true

INDEPENDENT TEXT ANALYSIS- Read the chapter, 'The Tiger King' by Kalki and try to answer the following questions:

CHAPTER - THE TIGER KING

A. "The chief astrologer placed his finger on his nose in wonder. A baby barely ten days old opens its lips in speech! Not only that, it also raises intelligent questions! Incredible!

Rather like the bulletins issued by the war office, than facts.

The chief astrologer took his finger off his nose and fixed his eyes upon the little prince. The prince was born in the hour of the Bull. The Bull and the Tiger are enemies, therefore, death comes from the Tiger," he explained."

1. Assertion- A miracle took place when the astrologer made prophesy about the death of the infant prince.

Reason- The ten- day old prince began to speak.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

2. Assertion- The prince was born at the hour of the tiger.

Reason- The prince would be killed by a tiger.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

3. Assertion- The king was killed by a real tiger.

Reason- The prophesy of the astrologer came true in the end.

- a. Both A and R are true and R is the correct explanation of A
- b. Both A and R are true but R is not the correct explanation of A
- c. A is true but R is False
- d. R is true but A is False

Read the extract and answer the questions.

“At another time he was in danger of losing his throne. A high-ranking British officer visited Pratibandapuram. He was very fond of hunting tigers. And fonder of being photographed with the tigers he had shot. As usual, he wished to hunt tigers in Pratibandapuram. But the Maharaja was firm in his resolve. He refused permission. “I can organise any other hunt. You may go on a boar hunt. You may conduct a mouse hunt. We are ready for a mosquito hunt. But tiger hunt! That’s impossible!”

- a. The king was in danger of losing his kingdom because.....
- b. The British officer was really interested in killing a tiger. TRUE/ FALSE?
- c. The character trait of the king revealed here is that
- d. The tone of the writer is that of
- e. The literary device employed in the above extract is

Holiday Homework (2026-27)

Class: XII

Subject: Mathematics (041)

1. Assignment (To be done in Mathematics Set - A register)

2. Complete Activity-1 to Activity-5 in Mathematics practical file.

Topic: Relations and Functions

- Q1. Find the number of all the possible functions from set $A = \{1, 2, 3\}$ to itself.
- Q2. Let f be the greatest integer function and g be the absolute value function, find the value of $f\left(\frac{5}{3}\right) + f\left(-\frac{5}{3}\right) + g\left(-\frac{5}{3}\right)$.
- Q3. If the set A contains 5 elements and the set B contains 6 elements, then how many one-one functions exist from A to B ?
- Q4. Let $g: A \rightarrow B$ be a function such that $n(A) = 4$
- If f is injective then what is the minimum number of elements in B ?
 - If f is surjective then what is the maximum number of elements in B ?
- Q5. Check whether the given relations are reflexive, symmetric or transitive.
- $R = \{(x, y): x^2 + y^2 = 4; x, y \in \mathbb{Z}\}$
 - $R = \{(m, n): mn \text{ is a square number}; m, n \in \mathbb{N}\}$
- Q6. Let n be a positive integer. Prove that the relation R on the set Z of all integers defined by $R = \{(x, y): x - y \text{ is divisible by } n\}$ is an equivalence relation on Z .
- Q7. Check whether $f: Z \times Z \rightarrow Z \times Z$ defined as $f(x, y) = (2y, 3x)$ is bijective or not. Give reason.
- Q8. Show that the function f in $A = \mathbb{R} - \left\{\frac{2}{3}\right\}$ defined as $f(x) = \frac{4x+3}{6x-4}$ is one-one and onto.
- Q9. Show that the function $f: \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = \frac{x^2}{x^2+1}, \forall x \in \mathbb{R}$, is neither one-one nor onto.
- Q10. Consider $f: \mathbb{R}_+ \rightarrow (-9, \infty)$ where \mathbb{R}_+ is set of positive real numbers. If $f(x) = 5x^2 + 6x - 9$. Prove that f is bijective.
- Q11. Let $f: \mathbb{N} \rightarrow \mathbb{N}$ be a function defined as $f(x) = 9x^2 + 6x - 5$. Find the preimage of 43 and 63 under f .

Topic: Matrices and Determinants

- Q1. Find the value of p , such that the matrix $\begin{bmatrix} -1 & 2 \\ 4 & p \end{bmatrix}$ is singular.
- Q2. A is a non-singular matrix of order 3 and $|A| = -4$. Find $|A \cdot \text{adj}A|$.
- Q3. If A is a square matrix of order 3 and $|A| = -2$, find the value of $|2A^{-1}|$.
- Q4. If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, find determinant of $(A \cdot (\text{adj}A))$.
- Q5. If $A = \begin{bmatrix} k & 0 \\ 1 & 1 \end{bmatrix}, B = \begin{bmatrix} 1 & 0 \\ 2 & 1 \end{bmatrix}$, find the value of k such that $A^2 = B$.
- Q6. Find the value of x if $[x \ 1] \begin{bmatrix} 1 & 0 \\ -2 & 0 \end{bmatrix} = 0$.
- Q7. Find the value of x if $A = \begin{bmatrix} 4 & x+2 \\ 2x-3 & x+1 \end{bmatrix}$ is a symmetric matrix.
- Q8. If A is a square matrix of order 3 such that $|\text{adj} A| = 16$, then find the value of $|A|$.
- Q9. Let A and B be 3×3 matrices such that $A' = -A$ and $B' = B$, find the value of λ such that $(\lambda AB + 3BA)$ is a skew symmetric matrix.
- Q10. If $A = \begin{bmatrix} 1 & -1 \\ 2 & -1 \end{bmatrix}, B = \begin{bmatrix} a & 1 \\ b & -1 \end{bmatrix}$ and $(A+B)^2 = A^2 + B^2$, then find the values of a and b .

Q11. Prove that $aI + bA + cA^2 = A^3$, if $A = \begin{bmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ a & b & c \end{bmatrix}$.

Q12. If $A = \begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$, find AB . Hence solve the system of equations
 $x - y + z = 4$; $x - 2y - 2z = 9$; $2x + y + 3z = 1$.

Q13. Obtain the value of $\Delta = \begin{vmatrix} 1+x & 1 & 1 \\ 1 & 1+y & 1 \\ 1 & 1 & 1+z \end{vmatrix}$ in terms of x, y and z . Further, if $\Delta = 0$ and x, y and z are non zero real numbers, prove that $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = -1$.

Q14. Find the matrix A , such that $\begin{bmatrix} 2 & 1 \\ 3 & 2 \end{bmatrix} A \begin{bmatrix} -3 & 2 \\ 5 & -3 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$.

Q15. If $\begin{vmatrix} -1 & -2 & 5 \\ -2 & a & -1 \\ 0 & 4 & 2a \end{vmatrix} = -86$, find the sum of all possible values of a .

Q16. If $A = \begin{bmatrix} \tan x & \cot x \\ -\cot x & \tan x \end{bmatrix}$ then find the value of x such that $x \in \left(0, \frac{\pi}{2}\right)$ and $A + A' = 2I$.

Q17. If $A = \begin{pmatrix} 1 & a & b \\ -1 & 2 & c \\ 0 & 5 & 3 \end{pmatrix}$ is a symmetric matrix then find the value of $3a + b + c$.

Q18. If $A = \begin{pmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{pmatrix}$ and $B^{-1} = \begin{pmatrix} 3 & -1 & 1 \\ -15 & 6 & -5 \\ 5 & -2 & 2 \end{pmatrix}$, find $(AB)^{-1}$.

Q19. If $F(x) = \begin{pmatrix} \cos x & -\sin x & 0 \\ \sin x & \cos x & 0 \\ 0 & 0 & 1 \end{pmatrix}$ and $[F(x)]^2 = F(kx)$ then find the value of k .

Topic: Continuity and Differentiability

Q1. Give an example of a function which is continuous at $x = 1$, but not differentiable at $x = 1$.

Q2. If function $f(x) = \frac{2x+3 \sin x}{3x+2 \sin x}$, for $x \neq 0$ is continuous at $x = 0$, then find the value of $f(0)$.

Q3. State the number of points of discontinuity for the function $f(x) = [x]$ in $-3 < x < 3$.

Q4. Is the function $f(x) = \begin{cases} \frac{3x+4 \tan x}{5x}, & x \neq 0 \\ \frac{7}{5}, & x = 0 \end{cases}$ continuous at $x = 0$? Give reason.

Q5. Differentiate $\sqrt{\tan \sqrt{x}}$ w.r.t. x .

Q6. If $f(x) = |\cos x - \sin x|$, find $f'\left(\frac{\pi}{6}\right)$.

Q7. Differentiate $\log_2(\sin x)$ w.r.t. x .

Q8. Determine the values of a, b and c for which the function $f(x)$ is continuous at $x = 0$, where

$$f(x) = \begin{cases} \frac{\sin(a+1)x + \sin x}{x}, & x < 0 \\ c, & x = 0 \\ \frac{\sqrt{x+bx^2} - \sqrt{x}}{b\sqrt{x^3}}, & x > 0 \end{cases}$$

Q9. Let $f(x) = \begin{cases} \frac{1-\sin^3 x}{3 \cos^2 x}, & \text{if } x < \frac{\pi}{2} \\ a, & \text{if } x = \frac{\pi}{2} \\ \frac{b(1-\sin x)}{(\pi-2x)^2}, & \text{if } x > \frac{\pi}{2} \end{cases}$ be a continuous function at $x = \frac{\pi}{2}$, find the values of a and b .

Q10. If the function $f(x) = \begin{cases} ax + b, & \text{if } 0 < x \leq 2 \\ x^2 + 8, & \text{if } 2 < x \end{cases}$ is differentiable at $x = 2$ then find the values of a and b .

Q11. If $3 \sin(xy) + 4 \cos(xy) = 5$, show that $\frac{dy}{dx} = \frac{-y}{x}$.

Q12. If $e^y = y^x$, show that $\frac{dy}{dx} = \frac{(\log y)^2}{\log(\frac{y}{e})}$.

Q13. If $x^{16}y^9 = (x^2 + y)^{17}$, show that $\frac{dy}{dx} = \frac{2y}{x}$.

Q14. If $x^y = e^{x-y}$, show that $\frac{dy}{dx} = \frac{\log(x)}{(\log x)^2}$.

Q15. Differentiate $\tan^{-1}\left(\frac{x}{\sqrt{1-x^2}}\right)$ with respect to $\sin^{-1}(2x\sqrt{1-x^2})$.

Q16. Given that $y = \log\left(\sqrt{x} + \frac{1}{\sqrt{x}}\right)^2$. Show that $x(x+1)^2y_2 + (x+1)^2y_1 = 2$.

Q17. If $y = \log\frac{\sqrt{1+x} + \sqrt{1-x}}{\sqrt{1+x} - \sqrt{1-x}}$. Show that $\frac{dy}{dx} = \frac{-1}{2x\sqrt{1-x^2}}$.

Q18. Differentiate $\sin^{-1}\left[\frac{2^{x+1} \cdot 3^x}{1+36^x}\right]$ w.r.t. x .

Q19. $y\sqrt{1+x^2} = \log(\sqrt{1+x^2} - x)$. Show that $(x^2 + 1)\frac{dy}{dx} + xy + 1 = 0$.

Q20. $y = (\cot x + \operatorname{cosec} x)$. Show that $(1 - \cos x)^2 y'' = \sin x$.

Q21. $x = \sin t, y = \sin pt$. Show that $(1 - x^2)y'' - xy' + p^2y = 0$.

Q22. Find the derivative of $\cos(x^x)$.

Q23. If $y = x \log\left(\frac{x}{a+bx}\right)$, prove that $y'' = \frac{1}{x}\left(\frac{a}{a+bx}\right)^2$.

Q24. If $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$, show that $y'' = -\frac{b^4}{a^2 y^3}$.

Q25. If $y = e^{\sin^{-1} t}$ and $x = e^{\cos^{-1} t}$. Find $\frac{d^2y}{dx^2}$ at $x = 1$.

Q26. If $\sqrt{1-x^6} - \sqrt{1-y^6} = (x^3 - y^3)$ then prove that $\frac{dy}{dx} = -\frac{x^2}{y^2} \sqrt{\frac{1-y^6}{1-x^6}}$.

Q27. If the function $f(x)$ defined by $f(x) = \begin{cases} \frac{\log(1+3x) - \log(1-2x)}{x}, & x \neq 0 \\ k, & x = 0 \end{cases}$ is continuous at $x = 0$ then find the

value of k .

Q28. Find the point(s) of discontinuity of $f(x) = \frac{1}{\log|x|}$.

CASE STUDIES

Q1. In a village, a fair is being conducted every year. It is a major source of entertainment for many nearby villagers. A toy-train is the biggest draw for all the children. Madhav and his family visited the famous fair and noticed that the path of the train is a circle. If we write the path as a function of x then it is of the form

$$f(x) = \sqrt{4 - x^2}.$$

Based on the given information answer the following questions:

(i) Let $f : [-2, 2] \rightarrow [0, 2]$ defined as $f(x) = \sqrt{4 - x^2}$, check if f is injective.

(ii) Let $f : A \rightarrow \mathbb{R}$ be defined as $f(x) = \sqrt{4 - x^2}$, then find the domain of f .

(iii) The centre of the path of the toy-train is origin, and the position of Madhav in the train w.r.t origin is taken as (a, b) . At a certain moment, if $a = 1$, then find the value of b .



(iv) Let $f : [0, 2] \rightarrow [0, 2]$ defined as $f(x) = \sqrt{4 - x^2}$, show that f is bijective.

Q2. Consider two families A and B. Suppose there are 4 men, 4 women and 4 children in family A and 2 men, 2 women and 3 children in family B. The recommended daily calorie intake is 2400 for a man, 1900 for a woman and 1800 for a child. The recommended daily protein intake is 45 grams for a man, 55 grams for a woman and 33 grams for a child.



Based on the above information, answer the following questions.

- (i) Using matrix multiplication, find the total amount of daily calories requirement of family A and B.
- (ii) Using matrix multiplication, find the total amount of daily protein requirement of family A and B.

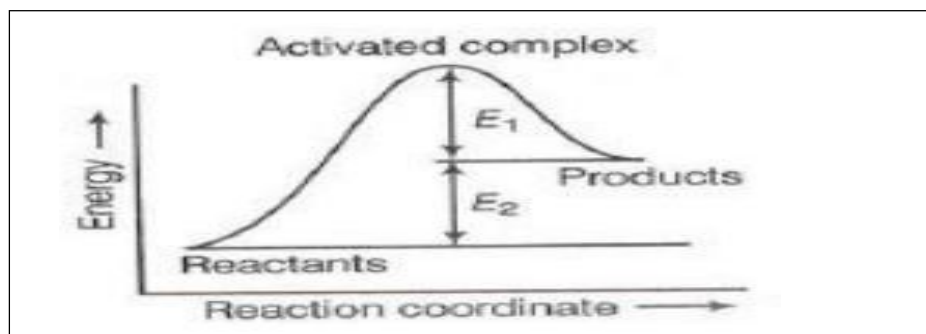
Holiday Homework
Class: XII
Subject: Chemistry (043)

General Instructions: -

1. Make the project on the given topic according to the instructions given in the class.
2. Learn the scheme for inorganic salt analysis as discussed in the class.
3. Write the following experiments in your practical file:
 - Exp: Chromatography
 - Exp: To find the functional group in the given sample.
 - Exp: To find the food component present in the given sample.

Assignment: To be done in the class notebook

1. Consider the following graph and mark the correct option.



- a) E_a of forward reaction is $E_1 + E_2$ and product is less stable than reactant.
 - b) E_a of forward reaction is $E_1 + E_2$ and product is more stable than reactant.
 - c) E_a of both forward and backward reaction is $E_1 + E_2$.
 - d) E_a of backward reaction is E_1 and product is more stable than reactant.
2. A student observes that adding sugar to water decreases freezing point but adding NaCl decreases it more. Why?
 3. Convert the following: (a) Chlorobenzene to benzoic acid
(b) Propan-2-ol to prop-1-ene
 4. Why is camphor preferred as a solvent in finding the molecular mass of naphthalene by Rast's method?
 5. Predict the major alkene (with reaction) that would be formed by dehydrohalogenation of 1-Bromo 1-methylcyclohexane with sodium ethoxide in ethanol.
 6. Cyanide ion acts as an ambident nucleophile. From which end, does it act as a stronger nucleophile in aqueous medium? Give reason for your answer.
 7. Two liquids X and Y on mixing form an ideal solution. The vapour pressure of the solution containing 3 mole of X and 1 mole of Y is 550 mm Hg. But when 4 mole of X and 1 mole of Y is mixed, the vapour pressure of the solution thus formed is 560 mm of Hg. What will be the vapour pressure of pure X and pure Y at this temperature?
 8. Aryl chlorides and bromides can be easily prepared by electrophilic substitution of arenes with chlorine and bromine respectively in the presence of Lewis acid catalysts. However, the preparation of aryl iodides requires presence of an oxidising agent. Explain.
 9. A aqueous solution consisting 0.5 g KCl in 100 mL water was found to freeze at -0.24°C . Find i and α for the solute respectively.
(Given: $K_{f \text{ water}} = 1.86 \text{ K kg mol}^{-1}$ and $\rho_{\text{water}} = 1 \text{ g ml}^{-1}$)
 10. A 1.2% (w/v) solution of NaCl is isotonic with 7.2 % (w/v) solution of glucose. Calculate the degree of dissociation of NaCl.
 11. Predict the state of the solute in the solution in the following situation:
 - (a) When i is found to be 0.3
 - (b) When i is found to be 4

12. (a) Why do electrolytes show greater colligative effects than non-electrolytes, but not always exactly proportional to their dissociation??
- (b) The freezing point of nitrobenzene is 278.8 K. When 2.8 g of an unknown substance is dissolved in 100 g of nitrobenzene, the freezing point of solution is found 276.8 K. If the freezing point depression of nitrobenzene is $8.0 \text{ K kg mol}^{-1}$, what is the molar mass of unknown substance? [$K_f = 8 \text{ K Kg/ mol}$ for nitrobenzene]
13. Differentiate between:
- (a) Solutions showing positive and negative deviation.
- (b) order and molecularity of reaction.

In the following passage-based questions (14 and 15), a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

A- Assertion and reason both are correct statements and reason is correct explanation of assertion.

B - Assertion and reason both are correct statements but reason is not correct explanation of assertion.

C - Assertion is correct statement but reason is wrong statement.

D - Assertion is wrong statement but reason is correct statement.

14. The branch of physical chemistry that is concerned with understanding the rates of chemical reactions. It is to be contrasted with thermodynamics which deals with the direction in which a process occurs but in itself tells nothing about its rate. Thermodynamics is time's arrow while chemical kinetics is time's clock. Chemical kinetics relates to many aspects of cosmology, geology, biology, engineering and even psychology and thus, has far-reaching implications. The principles of chemical kinetics applied to purely physical processes as well as to chemical reactions. The rate of a chemical reaction is defined in terms of the rates with which the products are formed and the reactants (the reacting substances) are consumed. For chemical systems, it is usual to deal with the concentrations of substances, which is defined as the amount of substance per unit volume. The rate can then be defined as the concentration of a substance that is consumed or produced in unit time.
- (a) **Assertion:** All collisions of reactant molecules do not lead to product formation.
Reason: Only those collisions in which molecules have correct orientation and sufficient kinetic energy led to compound formation.
- (b) **Assertion:** The enthalpy of reaction remains constant in the presence of a catalyst.
Reason: A catalyst lowers down the activation energy but the difference in energy of reactant and product remain same.
- (c) **Assertion:** Rate constants determined from Arrhenius equation are fairly accurate for simple as well as complex molecules.
Reason: Reactant molecules under goes chemical change irrespective of their orientation during collision.
15. The polarity of carbon-halogen bond of alkyl halides is responsible for their nucleophilic substitution, elimination and their reaction with metal atoms to form organ metallic compounds. Nucleophilic substitution reactions are categorized into SN^1 and SN^2 on the basis of their kinetic properties. Chirality has a profound role in understanding the reaction mechanisms of SN^1 and SN^2 reactions. SN^2 reactions of chiral alkyl halides are characterized by the inversion of configuration while SN^1 reactions are characterized by racemization.
- i) Out of $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}$ and $\text{CH}_2 = \text{CH} - \text{CH}_2 - \text{Cl}$, which one is more reactive towards

SN¹ reaction (with reason)

ii) Draw the optical isomers of lactic acid.

iii) What is the reactivity order of carbon substrates in the SN² mechanism?

Holiday Homework

Class: XII

Subject : Physics

1. Students will do the assignment questions given below for the following chapters in a separate notebook:
 - a) Electric charges and fields
 - b) Electrostatic potential and Capacitance
2. Students are required to get their Physics project done as per the topics discussed in the Class.
3. Written work of practical files to be completed as directed in the class.

UNIT I – ELECTROSTATICS

- a) Electric charges and fields
- b) Electrostatic potential and Capacitance

MULTIPLE CHOICE QUESTIONS

1. $+2C$ and $+6C$ two charges are repelling each other with a force of 12 N. If each charge is given $-2C$ of charge, then the value of the force will be
(a) 4 N (Attractive) (b) 4 N (Repulsive) (c) 8 N (Repulsive) (d) Zero
- 2 Two identical conductors of copper and aluminium are placed in an identical electric field. The magnitude of induced charge in the aluminum will be
(a) Zero (b) Greater than in copper (c) Equal to that in copper (d) Less than in copper
3. An electric field of 1000 V/m is applied to an electric dipole at an angle of 45° . The value of the electric dipole moment is 10^{-29} Cm. What is the potential energy of the electric dipole?
(a) -10×10^{-29} J (b) -7×10^{-27} J (c) -20×10^{-18} J (d) -9×10^{-20} J
4. Voltage rating of a parallel plate capacitor is 500 V. Its dielectric can withstand a maximum electric field of 10^6 V m^{-1} . The plate area is 10^{-4} m^2 . What is the dielectric constant if the capacitance is 15 pF? (given $\epsilon_0 = 8.86 \times 10^{-12}$ C² N⁻¹ m⁻²)
(a) 3.8 (b) 8.5 (c) 6.2 (d) 4.5

Directions: These questions consist of two statements, each printed as Assertion and Reason. While answering these questions, you are required to choose any one of the following responses.

- a) If both assertion and reason are true and the reason is the correct explanation of the assertion.
 - b) If both assertion and reason are true but reason is not the correct explanation of the assertion.
 - c) If assertion is true but reason is false.
 - d) If the assertion and reason both are false.
5. Assertion: If a point charge q is placed in front of an infinite grounded conducting plane surface, the point charge will experience a force.
Reason : This force is due to the induced charge on the conducting surface which is at zero potential.
 6. Assertion : A metallic shield in the form of a hollow shell, can be built to block an electric field.

Reason : In a hollow spherical shell, the electric field inside is not zero at every point.

Very short answers-

1. Why must electrostatic field be normal to the surface at every point of a charged conductor?
2. Why should electrostatic field be zero inside a conductor?
3. Why two equi potential surfaces cannot cut each other?
4. A metal plate is introduced between the plates of a charged parallel plate capacitor. Sketch the electric lines of forces between the plates..
5. What happens if the plates of a charged capacitor are suddenly connected by a conducting wire?
6. Draw a plot showing variation of electric field with distance due to a point charge.
7. A force F is acting between two charges placed some distance apart in vacuum. If a brass rod is placed between these two charges, how does the force change?
8. A spherical balloon carries a charge that is uniformly distributed over its surface. As the balloon is blown up and increases in size, how does the total electric flux coming out of the surface change?

Short answers-

9. Which orientation of an electric dipole in a uniform electric field would correspond to stable equilibrium ?
10. Name the physical quantity whose S.I. unit is JC^{-1} . Is it a scalar or a vector quantity?
11. Two charges of magnitudes $-2Q$ and $+Q$ are located at points $(a, 0)$ and $(4a, 0)$ respectively. What is the electric flux due to these charges through a sphere of radius $'3a'$ with its centre at the origin?
12. An electric dipole free to move is placed in a uniform electric field. Explain along with diagram its motion when it is placed
 - (a) parallel to the field
 - (b) perpendicular to the field
13. A spherical rubber balloon carries a charge that is uniformly distributed over its surface. as the balloon is blown up; how does E vary for points (a) inside the balloon, (b) on the surface of the balloon and (c) outside the balloon.
14. Define the terms (i) capacitance of a capacitor (ii) dielectric strength of a dielectric. When a dielectric is inserted between the plates of a charged parallel plate capacitor, fully occupying the intervening region, how does the polarization of the dielectric medium affect the net electric field.,

CASE STUDY QUESTIONS

(I) Concept of field lines was introduced by Michael Faraday as an aid in visualizing electric and magnetic fields. Electric line of force is an imaginary straight or curved path along which a unit positive charge tends to move in an electric field. Properties of lines of forces observed by the scientist such as: Lines of force start from positive charge and terminate at negative charge, Lines of force never intersect, the tangent to a line of force at any point gives the direction of the electric field E at that point, the number of lines per unit area, through a plane at right angles to the lines, is proportional to the magnitude of E . This means that, where the lines of force are close together, E is large and where they are far apart, E is small. Each unit positive charge gives rise to $1/\epsilon_0$ lines of force in free space. Hence number of lines of force originating from a point charge q is $N = q/\epsilon_0$ in free space.

1. Choose correct statement regarding electric lines of force:

- (a) Emerges from (-ve) charge and meet at (+ve) charge.
- (b) Electric field in a region is strong when the electric lines of forces at that region is closely spaced.
- (c) Just as it is shown for a point system in the same way it represents for a solid sphere.
- (d) has a physical nature.

2. Two electric field lines due to a point charge:

- (a) Never intersect
- (b) May intersect near the charge
- (c) Always intersect at 2 points
- (d) None of these

3. The tangent at any point on the electric field line gives:

- (a) The direction of magnetic field at that point
- (b) The direction of electric field at that point
- (c) The direction of acceleration due to gravity
- (d) All of the above

Holiday Homework (2026-27)

Class: XII

Subject: Biology

General Instructions

1. Students are required to do this assignment in the class work notebook.
2. All students will complete their Biology practical files as per the instructions given in the class.
3. Select the suitable topic for project work and prepare the soft copy for the same as per the format given in the class.

CH 1: SEXUAL REPRODUCTION IN FLOWERING PLANTS

CH 2: HUMAN REPRODUCTION

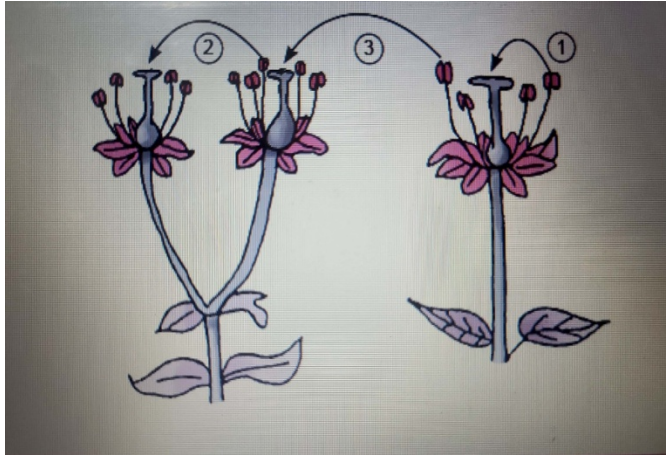
1. The outermost and innermost wall layers of microsporangium in an anther respectively are
(a) Endothecium and tapetum (b) Epidermis and endodermis (c) Epidermis and middle layer
(d) Epidermis and tapetum
2. The coconut water from tender coconut is
(a) Cellular endosperm (b) free nuclear endosperm (c) both cellular and nuclear endosperm
(d) free nuclear embryo
3. Self-pollination is fully ensured if
(a) the flower is bisexual (b) the style is longer than the filament.
(c) the flower is cleistogamous (d) the time of pistil and another maturity is different.
4. The outermost and innermost wall layers of microsporangium in an anther respectively are
(a) Endothecium and tapetum (b) Epidermis and endodermis (c) Epidermis and middle layer
(d) Epidermis and tapetum
5. The thalamus contributes to the fruit formation in
(a) banana (b) orange (c) strawberry (d) guava
6. Which of the following statements are correct with respect to hormones secreted by placenta?
(i) Placenta secretes relaxin during later stage of pregnancy.
(ii) Placenta secretes high amount of FSH during pregnancy.
(iii) Placenta secretes relaxin during initial stage of pregnancy.
(iv) Placenta secretes hCG and hPL during pregnancy.
7. During human embryonic development the external genital organs are well developed in the foetus
by the end of :
(a) 6 weeks of pregnancy (b) 12 weeks of pregnancy (c) 18 weeks of pregnancy
(d) 24 weeks of pregnancy
8. The source of gonadotropin LH and its corresponding function is:
(a) Anterior pituitary, ovulation (b) Anterior pituitary, Graafian follicle formation
(c) Hypothalamus, Ovulation (d) Hypothalamus, Graafian follicle formation
9. Spermiogenesis is the process of the release of sperms from:
(a) Seminiferous tubules (b) Vas deferens (c) Epididymis (d) Prostate gland
10. Mature Graafian follicle is generally present in the ovary of a healthy human female around :
(a) 5-8 day of menstrual cycle (b) 11-17 day of menstrual cycle
(c) 18-23 day of menstrual cycle (d) 24-28 day of menstrual cycle

10. Which of the following hormones is not secreted by human placenta?

- (a) Hcg (b) Oestrogen (c) Progesterone (d) LH

11.(a) Distinguish between the two cells enclosed in a mature male gametophyte of an angiosperm.

(b) Study the diagram given below showing the modes of pollination. Answer the questions that follow.



(i) The given diagram shows three methods of pollen transfer in plants. Examine them carefully and write the technical terms used for pollen transfer methods '1', '2' and '3'.

(ii) How do the following plants achieve pollination successfully?

- (a) Water lily
(b) Vallisneria

(iii) Write advantages of pollen transfer in method '3'.

12. Name the type of flowers produced by Viola. How do they differ from each other?

13. (a) A bilobed, dithecous anther has 100 microspore mother cells per microsporangium. How many male gametophytes this anther can produce?

(b) It is observed that exine does not form a continuous layer around the pollen grain. Give reason.

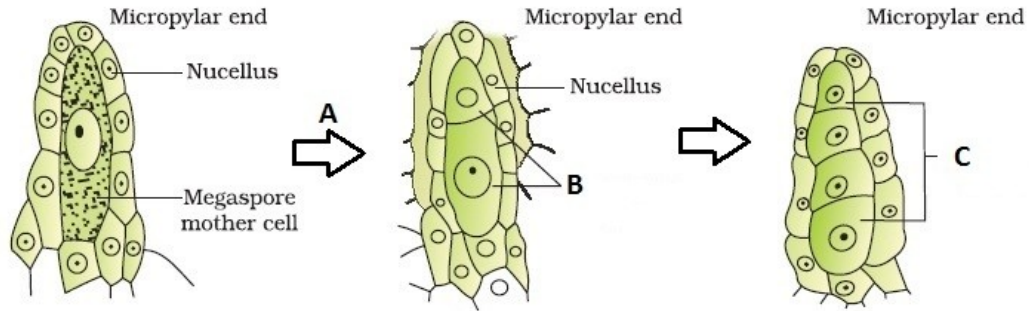
(c) How are 'pollen banks' useful?

14. (a) Can a plant flowering in Mumbai be pollinated by pollen grains of the same species growing in New Delhi? Provide explanations to your answer.

(b) Draw the diagram of a pistil where pollination has successfully occurred. Label the parts involved in reaching the male gametes to its desired destination.

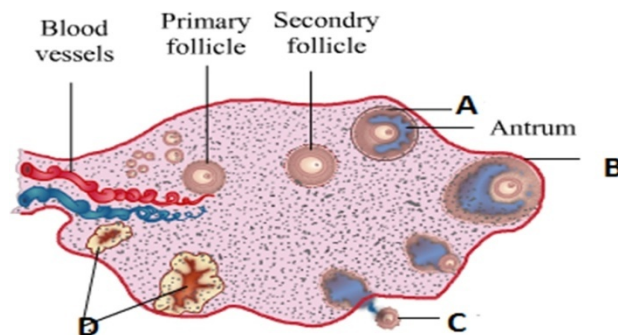
15. What are hybrid seeds? Why hybrid seeds have to be produced every year? Why is the genetics of apomictic seeds been thoroughly studied?

16. Study the diagram and answer the following questions:



- Which type of cell division occurs in the diagram marked A
- The two cells formed in B are called _____ & _____
- In figure marked C, four cells are formed. What are they?
- What happens to the cells marked C?
- What is the total process called?

17.



- Label the parts A to D.
 - How is the tertiary follicle identified?
 - When is Oogenesis initiated?
 - How many primary follicles are present in each ovary during puberty? What happens to the remaining?
18. What is meant by L.H. Surge? Write the role of L.H.
19. (a) Draw a diagrammatic sectional view of the female reproductive system of human and label the parts.
- where the secondary oocytes develops
 - which helps in collection of ovum after ovulation
 - where fertilization occurs
 - where implantation of embryo occurs.
- (b) Explain the role of pituitary and the ovarian hormones in menstrual cycle in

human females.

20. Write the functions of the following:

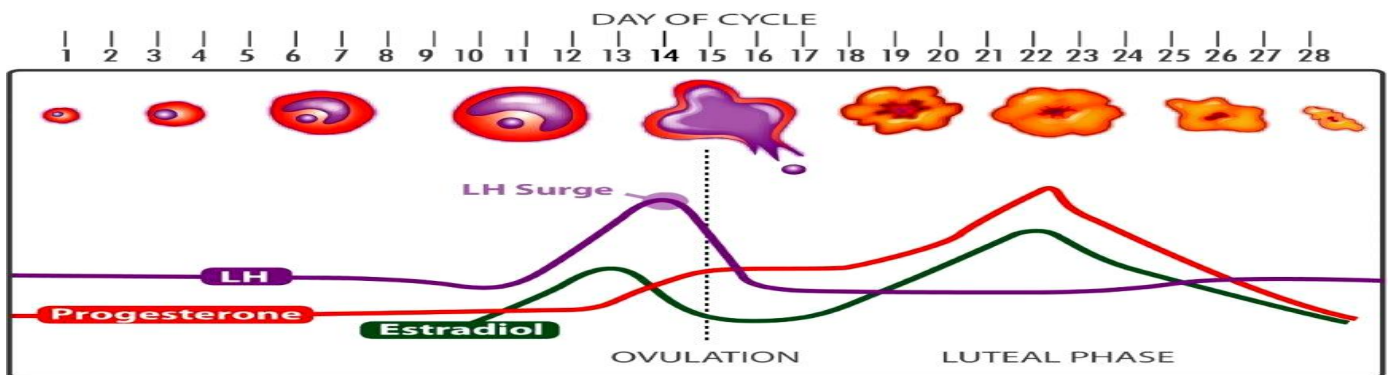
- (a). Endometrium,
- (b) Acrosome
- (c) Sperm tail
- (d) Fimbriae

21. (a) Draw a labelled diagram of a sectional view of human seminiferous tubule.

(b) Differentiate between gametogenesis in human males and females on the basis of

- (i) time of initiation of the process.
- (ii) products formed at the end of the process.

22. (a) Read the graph given below. Correlate the ovarian events that take place in the human female according to the level of the pituitary hormone during the following days:



- (i) 10th . 14th days (ii) 14th .15th days
 - (iii) 16th . 23th days (iv) 25th . 29th days
- (If the ovum is not fertilised)

(b) What are the uterine events that follow beyond 29th day if the ovum is not fertilised?

23. **Read the Assertion and Reason are carefully to mark the correct option in question.**

(A) If both Assertion and Reason are true and the reason is the correct explanation of the assertion.

(B) If both Assertion and Reason are true but reason is not the correct explanation of the assertion.

(C) If Assertion is true but Reason is false.

(D) If both Assertion and Reason are false.

(a) Assertion: Interstitial cell is present in the region outside the seminiferous tubule called interstitial spaces.

Reason : Interstitial cells provide nutrition to the sertoli cells.

(b) Assertion: Testicular lobules are the compartments present in testis.

Reason : These lobules are involved in the process of fertilization.

(c) Assertion : Megaspore mother cell undergoes meiotic division to form four haploid megaspores.

Reason: All four megaspores form female gametophyte.

(d) Assertion : The period for which pollen grains remain viable is highly variable.

Reason: Viability of pollen grain depends some extent on the prevailing temperature and humidity.

(e) Assertion : Apomictic embryos are genetically identical to the parent.

Reason: Apomictic is the production of seeds without fertilization.

24. CASE BASED QUESTION

Preeti during the lecture in the classroom felt surprised that how the pollen grains after reaching the stigma enters inside the ovule and sooner or later the seed and fruits starts developing. She started discussing this with her friend and they correlated the things with the reproductive process that takes place in all organisms. They then ask the teacher to explain the concept in class.

(i) The first step in pollen pistil interaction is :

(a) Recognition of anther

(b) Recognition of pollen grain

(c) Growth of pollen tube

(d) Entry of pollen tube into ovule

(ii) What happens to the plants that shed in the 3-celled condition? In the plants that shed pollen grains at 3-celled stage, the pollen carries the two male gametes from the beginning.

(iii) From what route does the pollen tube enters the ovule.

25. (i) Write the characteristics features of anther, pollen and stigma of wind pollinated flowers.

(ii) How do flowers reward their insect pollinators? Explain.

Holiday Homework (2026-27)
Class - XII
Subject: Accountancy (055)

General Instructions:

- (i) The students are required to attempt assignment in Part B in a class register only.
- (ii) Show the working notes clearly.

PART A (Project Work)

Project Work: Prepare a project file on **Specific Project i.e. Analysis of performance of a particular company with the help of accounting ratios and Cash Flow Statement**. It can be made individually or by a group of four students only (all members of the group will submit their own file separately).

Key Instructions to be followed:

Project Layout:

- (a) Project details – Specific Project.
 - (b) Student Information – Name, Class, Section, Roll No., School,
Year 2026-27
 - (c) Acknowledgement (For format, refer Pg. P.9 of Text Book i.e. Analysis of Financial Statements)
 - (d) Certificate by Teacher (For format, refer Pg. P.9 of Text Book i.e. Analysis of Financial Statements)
 - (e) Index sheet
 - (f) A sheet containing all the following information i.e name of the project, objectives of the project, period of study, analytical tools used, source material.
- (The project should be made on A4 size different coloured sheets using coloured pens.)**

PART B (Assignment)

1. A, B and C were partners sharing profits in the ratio 5:3:2. Their Capitals were ₹ 6,00,000; ₹8,00,000 and ₹11,00,000 as on April 01, 2021. As per Partnership deed, Interest on Capitals were to be provided @ 10% p.a. For the year ended March 31, 2022, Profits of ₹ 2,00,000 were distributed without providing for Interest on Capitals.

Pass an adjustment entry and show the workings clearly.

2. Doremon, Shinchon and Nobita are partners sharing profits and losses in the ratio of 3:2:1. With effect from 1st April, 2022 they agree to share profits equally. For this purpose, goodwill is to be valued at two year's purchase of the average profit of last four years which were as follows:

Year ending on 31st March, 2019 ₹50,000 (Profit),
Year ending on 31st March, 2020 ₹1,20,000 (Profit),
Year ending on 31st March, 2021 ₹1,80,000 (Profit),
Year ending on 31st March, 2022 ₹70,000 (Loss).

On 1st April, 2021 a Motor Bike costing ₹50,000 was purchased and debited to travelling expenses account, on which depreciation is to be charged @ 20% p.a by Straight Line Method. The firm also paid an annual insurance premium of ₹20,000 which had already been charged to Profit and Loss Account for all the years.

Journalise the transaction along with the working notes.

3. X and Y are partners with a profit-sharing ratio of 1:2 with capitals of ₹4,00,000 and ₹6,00,000 respectively. On 1st October, 2014 X and Y granted Loans of ₹1,00,000 and ₹60,000 resp. to the

firm. Distribute the profit/losses amongst the partners for the year ended 31st March, 2015 in each of the following cases:

- (i) If the profit before interest for the year amounted to ₹12,000.
- (ii) If the profit before interest for the year amounted to ₹3,000.

4. X, Y and Z are sharing profits and losses in the ratio of 2 : 3 : 5. They decide to share future profits and losses in the ratio of 5 : 3 : 2 with effect from 1st April, 2015. They also decide to record the effect of the following accumulated profits, losses and reserves without affecting their book figures by passing a single entry.

	(₹)
General Reserve	12,000
Profit and Loss A/c (Credit)	48,000
Advertisement Suspense A/c	24,000
Pass necessary Single Adjustment Entry.	

5. Rajan, Sajan and Mehar are partners sharing profits in the ratio of 3:2:1 respectively. From 1st April, 2023, they decided to share profits in the ratio of 2:3:1. The partnership deed provides that in the event of any change in profit-sharing ratio, goodwill of the firm will be valued at 3 years' purchase of Super Profit of the business calculated on the Average Profit of the last 4 years.

Following particulars are available in respect of the business carried by them:

- (i) Capital employed ₹12,00,000.
- (ii) Net profit: 2019-20 ₹2,44,000; 2020-21-₹3,00,000; 2021-22-₹740,000 (LOSS) and 2022-23 ₹ 4,20,000.
- (iii) Rate of return on capital invested in this type of business 12%.
- (iv) Remuneration from alternative employment of the partners who are engaged full time in the business ₹24,000 p.a. each.

Showing the working clearly, give the necessary Journal entry to record the above.

6. A and B were partners in 3:2. On 1st April 2020, their capital balances were ₹ 3,00,000 and ₹5,00,000 respectively.

Following were the terms of the partnership deed:

- (i) Interest on capital @ 10% p.a.
- (ii) Interest on drawing @ 5% on their annual drawings.
- (iii) Salary to A @ ₹2,500 per month
- (iv) Commission to B ₹10,000 p.a. and after charging his commission.
- (v) 10% of the distributable profit should be transferred to general reserve.
- (vi) Annual drawings of the partners being ₹60,000 each.
- (vii) Net profit earned by the firm at the end of the year 31st March 2021 amounting to ₹ 2, 90,000. Prepare profit and loss appropriation account.

7. Calculate Goodwill of the firm on the basis of:

- a. Capitalisation of average profit
- b. 2 years purchase of super profit

Information:

- (i) Total Assets ₹ 15,00,000 and External Liabilities amounting to ₹ 3,00,000.
- (ii) Normal rate of return on capital employed is 8%.
- (iii) Profit or losses for the last 3 years:

2020	₹ 2,10,000
2019	₹ 1,90,000
2018	₹ (40,000) Loss

8. On 1st April, 2023 an existing firm had assets of ₹2,00,000 including cash of ₹4,000. Its creditors amounted to ₹10,000 on that date. The partner's capital accounts showed a balance of ₹1,60,000 while the General Reserve amounted to ₹30,000. If the Normal rate of return is 15% and the goodwill of the firm is valued at ₹36,000 at 3 year 's purchase of super profit, find the average profits of the firm.

9. Radhika, Bani and Chitra were partners in a firm sharing profits and losses in the ratio of 2:3:1. With effect from 1st April, 2022 they decide to share future profits and losses in the ratio of 3:2:1. On that date, their balance sheet showed a debit balance of ₹24,000 in Profit and Loss A/c and a balance of ₹1,44,000 in General Reserve. It was also agreed that:

(i) The goodwill of the firm be valued at ₹180,000.

(ii) The land (having book value of ₹3,00,000) will be valued at ₹4,80,000.

Pass the necessary journal entries for the above changes.

10. Ranjan, Manthan and Sanatan were partners sharing P&L in the ratio 5:3:2.

Pass entries for the following:

(i) Salary payable to Ranjan ₹10,000 per month

(ii) Interest on Drawings charged from Sanatan ₹5,000.

(iii) Divisible profits ₹3,00,000.

Holiday Homework (2026-27)

Class: XII

Subject : Economics (030)

PART A (3 marks each)

(Please attempt the following questions in your respective economics notebooks.)

1. Highlight the salient features of India's pre-independence occupational structure.
2. Give a brief account of the demographic profile of India during the British rule.
3. Briefly mention the effects of the development of railways in India by the British rulers.
4. How was Zamindari system an important cause of agricultural stagnation during colonial period?
5. State (giving valid reasons) whether the given statements are true or false.
(a) During the British rule, the benefit of expanded volume of India's exports rarely accrued to the Britishers.
(b) During the second half of the nineteenth century, the modern industry progressed in India at a significant pace.
6. Does modernisation as a planning objective create contradiction in the light of employment generation? Explain.
7. State (giving valid reasons) whether the given statements are true or false.
(a) Market price is always more than factor cost.
(b) National income is always greater than domestic income.
8. Calculate Net Value Added at Factor Cost from the following data.

Particulars	(in Rs crores)
i. Purchase of raw material	300
ii. Import duty	20
iii. Excise duty	30
iv. Net addition to stocks	50
v. Value of output	500
vi. Depreciation	10

9. Calculate Gross National Product at Market Price for the following data.

Particulars	(in Rs crores)
i Operating Surplus	1200
ii Interest	200
iii Profit	600
iv Dividends	300
v Wages and salaries	225
vi Net Indirect Tax	70
vii Consumption of fixed capital	30
viii Compensation of Employees	250
ix Mixed Income of Self Employed	100
x Net factor income from abroad	(-) 10

10. Calculate Gross National Product at Market Price.

Particulars	(in Rs crores)
i Rent	400
ii Interest	200
iii Profit	600
iv Dividends	300
v Wages and salaries	225
vi Net Indirect Tax	70
vii Consumption of fixed capital	30
viii Compensation of Employees	250
ix Mixed Income of Self Employed	100
x Net factor income from abroad	(-) 10

11.. Classify the following as factor income or transfer income giving reasons.

- (i) Unemployment allowance
- (ii) Financial help to earthquake victims

PART B

ART ACTIVITY (to be done on an A3 sheet)

The students may choose any one of the following options:

- a. Draw a poster on any one of the following topics.
 - (i) Impact of Iran-Israel US war on the Indian economy
 - (ii) Inward Looking Strategy
 - (iii) Agricultural Reforms
 - (iv) Sources of Human Capital Formation
 - (v) Challenges of Rural Development
- b. Make a crossword from the first two chapters of Indian Economic Development.
- c. Make a maze to reach national income through the income method.
- d. Design a 'Newspaper front page' on an A3 sheet from July 1991 announcing the liberalisation of the economy.
- e. Draw and plan a Ludo where the items which are included in the National Income are taken as ladders and the items which are excluded are taken as snakes.

PART C (to be done on single side ruled sheets)

Format for presentation of the Project

- a. External cover page
- b. Acknowledgement
- c. Preface
- d. Index (with page numbers)
- e. Introduction to the topic
- f. Historical Perspective
- g. Details of the topic (causes, consequences/remedies)

- h. Diagrammatic explanation (if any)
- i. Numerical explanation (if any)
- j. Pros and Cons of the economic event/happening (if any)
- k. Application of the concept
- l. Impact on Indian Economy
- m. Impact in Corona Pandemic(if any)
- n. Newspaper articles
- o. Students' own views/perception/opinion and learning from the topic
- p. Feedback Sheet
- q. Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

Mode of presentation of the Project

- a. Students must strive to present the ideas in an innovative manner. The content should be well-explained by integrating art and technology.
- b. The project must be neat and well-presented and must be completely handwritten. No whiteners to be used or written matter to be crossed out. In case of any mistakes, redo the sheet.
- c. Project should be of 3,500-4,000 words i.e, about 30-35 pages. (excluding diagrams and graphs).
- d. The cover page, certificate of authenticity and feedback sheet shall be mailed to you and their printouts will be used.
- e. The project concepts need to be supplemented by newspaper articles pasted on the blank side of the paper with the relevant information written on the adjacent page.
- f. The presentation can be supported by newsletters, charts, brochures, quotes, cards, collage, mind maps etc.
- g. It has to be an independent, self-directed piece of study.

Marking Scheme

1. Relevance of the topic	3 marks
2. Knowledge Content/Research Work	6 marks
3. Presentation Technique	3 marks
4. Viva-voce	8 marks
Total	20 marks

Suggested Topics

- 1. Micro and Small Scale Industries
- 2. Food Supply Channel in India
- 3. Contemporary Employment situation in India
- 4. Disinvestment policy of the government
- 5. Goods and Services Tax Act and its Impact on GDP
- 6. Health Expenditure (of any state)
- 7. Human Development Index
- 8. Inclusive Growth Strategy
- 9. Self-help group

10. Trends in Credit availability in India
11. Monetary Policy Committee and its functions
12. Role of RBI in Control of Credit
13. Government Budget & its Components
14. Trends in budgetary condition of India
15. Exchange Rate determination – Methods and Techniques
16. Currency War – reasons and repercussions
17. Livestock – Backbone of Rural India
18. Alternate fuel – types and importance
19. Sarva Shiksha Abhiyan – Cost Ratio Benefits
20. Golden Quadrilateral- Cost ratio benefit
21. Minimum Support Prices
22. Relation between Stock Price Index and Economic Health of a Nation
23. Waste Management in India – Need of the hour
24. Minimum Wage Rate – Approach and Application
25. Digital India- Step towards the future
26. Rain Water Harvesting – A solution to water crisis
27. Vertical Farming – An alternate way
28. Silk Route- Revival of the past
29. Make in India – The way ahead
30. Bumper Production- Boon or Bane for the farmer
31. Rise of Concrete Jungle- Trend Analysis
32. Organic Farming – Back to the Nature
33. Aatmanirbhar Bharat
34. e-Rupee (e- ₹)
35. Sri Lanka's Economic Crisis
36. Sustainable Development Goals (SDG's)
37. Environmental Crisis
38. Comparative Study of Economies (Maximum three economies)
39. New Education Policy (NEP) 2020: A Promise for a New Education System
40. G-20: Inclusive and Action Oriented
41. Amrit Kaal: Empowered and Inclusive Economy
42. Cashless Economy
43. Any other newspaper article and its evaluation on basis of economic principles
44. Any other topic approved by your subject teacher

A thorough research should be done on the topic from various sources and a draft of the relevant material is to be prepared in a word document. It should be organised into subheads as per the contents suggested above. Mail the document and make the project file on A4 sheets after approval from the teacher. (Do not use glitter or sparkles or irrelevant stickers in the file. It should be aesthetic, well decorated with sketches, images, graphs, diagrams, news articles, cartoons on coloured sheets with creative paper cutting and not cluttered or bulky)

Holiday Homework (2026-2027)

Class: XII

Subject: Business Studies (054)

General Instructions:

- i. The assignment is divided into three parts, namely Part-A, Part-B and Part-C
- ii. Part A comprises an art-integrated activity to be done on an A3-size sheet.
- iii. Part-B comprises project work on any topic per the CBSE guidelines. The student has to do this in a file.
- iv. Part-C comprises assignment questions to be attempted neatly in the class register.

PART-A

Public Relations in Action – A Creative Storyboard Presentation

- Select any existing company that has successfully used Public Relations as a tool of promotion.
- On an A3 size sheet, prepare a creative storyboard illustrating how the company used Public Relations to enhance its brand image or connect with the public.

The storyboard may include:

- Pictures and illustrations
- Newspaper or magazine clippings
- Advertisements or social media campaigns
- Captions, slogans, headlines, speech bubbles, etc.

PART-B

- Project file on a topic allotted by the teacher to be prepared as per CBSE curriculum guidelines (2026-27).
- The file carries a weightage of 20 marks in the final exam.
- The projects must be neat and well-presented and must be completely handwritten, except for the headings. No whiteners to be used or written matter to be crossed out. In case of any mistakes, redo the sheet.
- The cover page, certificate of authenticity and feedback sheet shall be sent to you through class WhatsApp group and their printouts will be used.
- The total length of the project should be between 30-35 pages.

I. Project One: Elements of Business Environment

1. Changes witnessed over the last few years on mode of packaging and its economic impact.

- a) The changes in transportation of fruits and vegetables such as cardboard crates being used in place of wooden crates, etc. Reasons for above changes.
- b) Milk being supplied in glass bottles, later in plastic bags and now in tetra-pack and through vending machines.
- c) Plastic furniture [doors and stools] gaining preference over wooden furniture.
- d) The origin of cardboard and the various stages of changes and growth.
- e) Brown paper bags packing to recycled paper bags to plastic bags and cloth bags.
- f) Re use of packaging [bottles, jars and tins] to attract customers for their products.
- g) The concept of pyramid packaging for milk.

- h) Cost being borne by the consumer/manufacturer.
- i) Packaging used as means of advertisements.

2. The reasons behind changes in the following:

Coca – Cola and Fanta in the seventies to Thums up and Campa Cola in the eighties to Pepsi and Coke in nineties.

The students may enquire about

- a) Reasons of stopping the manufacturing of the above mentioned drinks in India THEN.
- b) The introduction of Thums up and Campa cola range.
- c) Re entry of Coke and introduction of Pepsi in the Indian market.
- d) Factors responsible for the change.
- e) Other linkages with the above.
- f) Leading brands and the company having the highest market share.
- g) Different local brands venturing in the Indian market.
- h) The rating of the above brands in the market.
- i) The survival and reasons of failure in competition with the international brands.
- j) Other observations made by the students

3. Changing role of women in the past 25 years relating to joint families, nuclear families, women as a bread earner of the family, changes in the requirement trend of mixers, washing machines, micro wave and standard of living.

4. The changes in the pattern of import and export of different Products.

5. The trend in the changing interest rates and their effect on savings.

6. A study on child labour laws, its implementation and consequences.

7. The state of ‘anti plastic campaign,’ the law, its effects and implementation.

8. The laws of mining /setting up of industries, rules and regulations, licences required for running that business.

II. Project Two: Principles of Management

The students are required to visit any one of the following:

- 1. A departmental store.
- 2. An Industrial unit.
- 3. A fast food outlet.
- 4. Any other organisation approved by the teacher.

They are required to observe the application of the general Principles of management advocated by Fayol.

III. Project Three: Stock Exchange

The students are expected to:

- a) Develop a brief report on History of Stock Exchanges in India.
- b) Prepare a list of at least 25 companies listed on a Stock Exchange.
- c) To make an imaginary portfolio totalling a sum of Rs. 50,000 equally in any of the 5 companies of their choice listed above over a period of twenty working days.

The students may be required to report the prices of the stocks on daily basis and present it diagrammatically on the graph paper.

They will understand the weekly holidays and the holidays under the Negotiable Instruments Act.

They will also come across with terms like closing prices, opening prices, etc.

During this period of recording students are supposed to distinctively record the daily and starting and closing prices of the week other days under the negotiable instrument act so that they acquire knowledge about closing and opening prices.

The students may conclude by identifying the causes in the fluctuations of prices. Normally it would be related to the front page news of the a business journal, for example, Change of seasons. Festivals. Spread of epidemic. Strikes and accidents Natural and human disasters. Political environment, Lack of faith in the government policies, Impact of changes in government policies for a specific industry, international events.

Crisis in developed countries, etc.

The students are expected to find the value of their investments and accordingly rearrange their portfolio. The project work should cover the following aspects;

1. Graphical presentation of the share prices of different companies on different dates.
2. Change in market value of shares due to change of seasons, festivals, natural and human disasters.
3. Change in market value of shares due to change in political environment/ policies of various countries/crisis in developed countries or any other reasons
4. Identify the top ten companies out of the 25 selected on the basis of their market value of shares.

It does not matter if they have made profits or losses.

IV. Project Four: Marketing

- | | |
|-------------------------|---------------------|
| 1. Adhesives | 22. DTH |
| 2. Air conditioners | 23. Eraser |
| 3. Baby diapers | 24. e-wash |
| 4. Bathing Soap | 25. Fairness cream |
| 5. Bathroom cleaner | 26. Fans |
| 6. Bike | 27. Fruit candy |
| 7. Blanket | 28. Furniture |
| 8. Body Spray | 29. Hair Dye |
| 9. Bread | 30. Hair Oil |
| 10. Breakfast cereal | 31. Infant dress |
| 11. Butter | 32. Inverter |
| 12. Camera | 33. Jams |
| 13. Car | 34. Jeans |
| 14. Cheese spreads | 35. Jewellery |
| 15. Chocolate | 36. Kurti |
| 16. Coffee | 37. Ladies bag |
| 17. Cosmetology product | 38. Ladies footwear |
| 18. Crayons | 39. Sarees |
| 19. Crockery | 39. Learning Toys |
| 20. Cutlery | 40. Lipstick |
| 21. Cycle | 41. Microwave oven |

- | | |
|---------------------------------------|------------------------|
| 42. Mixers | 60. Sauces/ Ketchup |
| 43. Mobile | 61. Shampoo |
| 44. Moisturizer | 62. Shaving cream |
| 45. Music player | 63. Shoe polish |
| 46. Nail polish | 64. Shoes |
| 47. Newspaper | 65. Squashes |
| 48. Noodles | 66. Suitcase/ airbag |
| 49. Pen | 67. Sunglasses |
| 50. Pen drive | 68. Tea |
| 51. Pencil | 69. Tiffin Wallah |
| 52. Pickles | 70. Toothpaste |
| 53. Razor | 71. Wallet |
| 54. Ready Soups | 72. Washing detergent |
| 55. Refrigerator | 73. Washing machine |
| 56. RO system | 74. Washing powder |
| 57. Roasted snacks | 75. Water bottle |
| 58. Salt | 76. Water storage tank |
| Any more as suggested by the teacher. | 77. Wipes |

The students are required to make a project on the identified product/service keeping in mind the following:

1. Why have they selected this product/service?
2. Find out '5' competitive brands that exist in the market.
3. What permission and licences would be required to make the product?
4. What are your competitors' Unique Selling Proposition.[U.S.P.]?
5. Does your product have any range, give details?
6. What is the name of your product?
7. Enlist its features.
8. Draw the 'Label' of your product.
9. Draw a logo for your product.
10. Draft a tag line.
11. What is the selling price of your competitor's product?
 - (i) Selling price to consumer
 - (ii) Selling price to retailer
 - (iii) Selling price to wholesaler
 What is the profit margin in percentage to the Manufacturer, Wholesaler and Retailer.
12. How will your product be packaged?
13. Which channel of distribution are you going to use? Give reasons for selection?
14. Decisions related to warehousing, state reasons.
15. What is going to be your selling price?
 - (i) To consumer
 - (ii) To retailer
 - (iii) To wholesaler
16. List 5 ways of promoting your product.
17. Any schemes for
 - (i) The wholesaler

(ii) The retailer

(iii) The consumer

18. What is going to be your 'U.S.P'?

19. What means of transport will you use and why?

20. Draft a social message for your label.

21. What cost effective techniques will you follow for your product.

22. What cost effective techniques will you follow for your promotion plan.

At this stage the students will realise the importance of the concept of marketing mix and the necessary decision regarding the four P's of marketing.

Product, Place, Price, Promotion

Following essentials are required to be fulfilled for its preparation and submission.

1. The total length of the project will be of 25 to 30 pages.

2. The project should be handwritten.

3. The project should be presented in a neat folder.

4. The project report should be developed in the following sequence- Cover page should include the title of the Project, student information, school and year.

List of contents.

Acknowledgements and preface (acknowledging the institution, the places visited and the persons who have helped).

Observations and findings of the visit.

Conclusions (summarized suggestions or findings, future scope of study).

Photographs (if any).

Teacher's observation.

Signatures of the teachers.

PART-C

Q1. Tanuj is a small entrepreneur involved in the manufacturing of hair wax. He finds that cost of production of 100 gm of hair wax is Rs. 250. He has decided to keep a margin of 15% as profit. Identify the function of marketing being performed by Tanuj. (1)

Q2. Sioz Ltd believes the philosophy which assumes that if an organization sells aggressively, it will capture substantial market share. Which philosophy is followed by Sioz Ltd? (1)

Q3. A brand or part of a brand that is given a legal protection is called a brand mark. Defend or refute. (1)

Q4. 'Buy one get one free' is printed on the label of the package of a mosquito repellent. State the labeling function being performed by this statement. (1)

Q5. ICICI Bank wants to open a new branch of its bank. What is this decision called? (1)

Q6. Mr. David, working as Sales executive in Mahalaxmi Ltd. possesses good marketing techniques. His techniques involve oral presentation of message in the form of conversation with prospective customers for the purpose of making sales. Name the promotional tool used by Mr. David. (1)

Q7. Assertion: Use of debt decreases the return of shareholders.

Reason: Debt and equity are similar in cost and risk.

- a. Both (A) and (R) are true and (R) is the correct explanation of (A).
- b. Both (A) and (R) are true and (R) is not the correct explanation of (A).
- c. Both (A) and (R) are false
- d. (A) is true but (R) is false (1)

Q8. In order to enhance the easy marketability of the products, Dev, a producer gets home furnishing products manufactured in confirmation to the predetermined specifications. Identify the type of marketing function being described in the given case:

- a. Physical distribution
- b. Standardization and grading
- c. Transportation
- d. Warehousing (1)

Q9. Zoom Udyog, a car manufacturing Co., has started its business with Zoom 800 and slowly launched Zoom-1000, Wagon-Z, Swy-fy etc. and offered various services like after sale services, availability of spare parts etc. Identify the element of marketing mix referred here. (1)

Q10. IL ltd is a school bag manufacturer company. Over the time, they have added features to the school bags to improve the performance of the product and enhance profit maximization. They add different compartments to keep books, registers and lunchboxes with water bottle holders on both the sides of the bags.

- (i) Identify the marketing management philosophy adopted by IL ltd
- (ii) Explain the philosophy on the basis of (a) main focus and (b) means and ends. (3)

Q11. Identify what is being marketed in the following cases: (3)

- a. The company is in the business of organizing music concerts all over the globe.
- b. BSE publishing 'Rising and falling of Stock Markets' to create awareness among public.
- c. Paytm offering e-platforms for payments.

Q12. Fiona went to a shop to buy hair oil. The shopkeeper forced her to buy a particular brand of hair oil out of the various brands available irrespective of the willingness of Fiona. Which right has been violated in this case? Explain it. (3)

Q13. Anita purchased one litre of pure desi ghee from a shopkeeper. When she used it, she felt that it was adulterated. To confirm her suspicions, she sent it to the laboratory for testing and the test results proved that the ghee was indeed adulterated. She filed a complaint against the manufacturers. State three relief measures which she can avail of. (3)

Q14. A firm's return on investment is 8.6% and the rate of interest on borrowed funds is 10%. Suggest, giving reason as to which source of funds should the firm use to increase earnings per share of the shareholders. (3)

Q15. It is the most significant blueprint of the financial activities of the business. Identify it and state any two points describing its importance. (3)

Q16. Suzzaine bought a pain relieving ointment after seeing it being displayed in the chemist's shop. The ointment tube was packed in a cardboard box. Identify and explain the different levels of packaging of the pain relieving ointment when it was purchased by Suzzaine. Also, explain the level which is not present in the case with an example. (4)

Q17. Khoobsurat Pvt. Ltd. is the largest hair salon chain in Delhi, with over a franchise of two hundred salons. The company is now planning to set up a manufacturing unit in Faridabad for production of various kinds of beauty products under its own brand name.

In the context of the above case:

(i) Comment upon the fixed capital needs of the company.

(ii) How will the requirement of the fixed capital of the company change when it implements its plan to set up a manufacturing unit? (4)

Q18. Identify the tool or element of promotion in the following cases:

i. It is highly flexible as the message can be adjusted as per situation.

ii. It is a paid form of non-personal presentation by an identified sponsor.

iii. It aims at creating and managing successful relations with the public.

iv. It induces people to try new products as they are either offered at low price or given as free samples. (4)

Q19. The Return on Investment (ROI) of a company ranges between 10% – 12% for the past three years. To finance its future fixed capital needs, it has the following options for borrowing debt:

Option 'A' : Rate of interest 9%

Option 'B' : Rate of interest 13%

Which source of debt, 'Option A' or 'Option B', is better ? Give reason in support of your answer. Also state the concept being used in taking the decision. (4)

Q20. Medical oxygen O2 IP is a drug and essential commodity. The National Pharmaceutical Pricing Authority (NPPA) had fixed the ceiling price of oxygen. Anticipating such hoarding and black marketing, the Haryana state drug controller has asked oxygen manufacturer filling units and air separation units to strictly adhere to the ceiling prices fixed by NPPA at ₹17.49 per cubic meter. Identify the factor affecting one of the elements of marketing mix highlighted above. Also explain any two other factors (apart from the one highlighted above) affecting the determination of the above element of marketing mix. (6)

Q21. Ashima purchased a bottle of tomato-sauce from the local grocery shop. The information provided on the bottle was not clear. She fell sick on consuming it. She filed a case in the District Forum under Consumer Protection Act and got the relief.

(i) Identify the important aspect neglected by the marketer in the above case.

(ii) Explain briefly the functions of the aspect identified in (i) above. (6)

Q22. Identify the philosophy of marketing in the following cases:

1. This concept places more importance to selling and promotional efforts to sell the product.

2. This concept believes in cost reduction through mass production.
3. It pays attention to social and ethical aspects of marketing.
4. This concept aims to identify the needs of consumers and to satisfy the need better than competitors.
5. This concept assumes that customers can be attracted by making continuous improvement in the product.
6. This concept aims at availability and affordability of the product. (6)

Holiday Homework (2026-27)
Class XII
Informatics Practices (065).

All the questions to be performed in python language only.

Q1. Write a program to:

Create a Series from a list [10, 20, 30, 40] and print it.

Q2. Create a Series using dictionary:

```
{'a': 1, 'b': 2, 'c': 3}
```

Q3. Write a program to print:

Square of all values in a Series

Values greater than 25

Q4. Create a DataFrame using:

```
data = {'Name':['Aman','Riya','Karan'],
```

```
       'Marks':[85,90,78]}
```

Display the DataFrame.

Q5 .Add a new column “Grade” in above DataFrame.

Q6. Delete a column using:

```
del
```

```
drop()
```

Case Study / Application-Based

A school stores student data in a CSV file containing Name, Marks, and Grade.

Answer the following:

Write code to read the file.

Display only Names column.

Display students scoring more than 80 marks.

Add a new column “Result” (Pass/Fail).

Section C: Activity / Project Work

Create a mini project using Pandas:

Take any dataset (students, cricket, shopping, etc.)

Perform:

DataFrame creation

Add/Delete column

Use head(), tail()

Apply filtering.

Section D: Case Study-Based DataFrame Questions

Case Study 1: Student Performance Data

A DataFrame is created as:

```
data = {
    'Name': ['Aman','Riya','Karan','Simran','Rahul'],
    'Marks': [85, 92, 76, 88, 67],
    'Stream': ['Science','Commerce','Science','Arts','Commerce']
}
```

```
df = pd.DataFrame(data)
```

Answer the following:

Display only the “Name” column.

Display “Name” and “Marks” together.

Display first 3 rows using appropriate function.

Display last 2 rows.

Use loc() to display rows 1 to 3.

Use iloc() to display first 2 rows and first 2 columns.

Display students scoring more than 80 marks (Boolean Indexing).

Add a new column “Result” where marks > 75 → Pass else Fail.

Rename column “Marks” to “Score”.

Delete column “Stream” .

◆ Case Study 2: Employee Data Handling

```
data = {
    'EmpID':[101,102,103,104],
    'Name':['Raj','Neha','Amit','Sara'],
    'Salary':[50000,60000,55000,65000]
}
df = pd.DataFrame(data)
```

Questions:

1. Add a column “Bonus” = 10% of Salary.
2. Create a new column “Total Salary” = Salary + Bonus.
3. Delete “Bonus” column using pop().
4. Delete row with index 2 using drop().
5. Display data where Salary > 55000.
6. Iterate through rows using iterrows() and print Name & Salary.
7. Iterate through columns using iteritems().
8. Change salary of employee with EmpID 102 to 62000.

Case Study 3: Cricket Team Data

```
data = {
    'Player':['Rohit','Virat','Hardik','Gill'],
    'Runs':[500,650,400,480],
    'Matches':[10,12,9,11]
}
df = pd.DataFrame(data)
```

Questions:

1. Calculate average runs per match.
2. Add column “Average”.
3. Display player with highest runs.
4. Sort data based on Runs (descending).
5. Display only players who played more than 10 matches.
6. Use slicing to display first 3 records.

Case Study 4: CSV File Handling

A file students.csv contains:

Name,Marks,Grade

Aman,85,A

Riya,92,A+

Karan,76,B

Questions:

1. Write code to read the CSV file.
2. Display complete DataFrame.
3. Display only “Marks” column.
4. Add a new column “Status” (Pass if Marks > 80).
5. Export updated DataFrame to a new CSV file.

Case Study 5: DataFrame Combination (Concat)

```
df1 = pd.DataFrame({'A':[1,2],'B':[3,4]})
df2 = pd.DataFrame({'A':[5,6],'B':[7,8]})
```

Questions:

1. Concatenate df1 and df2 row-wise.
2. Concatenate df1 and df2 column-wise.
3. Use ignore_index=True .
4. Explain difference between axis=0 and axis=1.

Case Study 7: Indexing & Selection

```
data = {
    'City':['Delhi','Mumbai','Chennai','Kolkata'],
    'Temp':[35,32,34,30]
}
df = pd.DataFrame(data)
```

Questions:

1. Set "City" as index.
2. Access temperature of Mumbai using loc.
3. Access first 2 rows using iloc.
4. Slice rows from index 1 to 3.
5. Reset the index.

Create a DataFrame of 5 students with Name, Marks1, Marks2.

Questions:

1. Add column Total = Marks1 + Marks2
2. Add column Percentage
3. Display top 3 students
4. Display students with percentage > 75
5. Delete lowest scoring student.

Note: All the questions to be performed practically and to be attached in practical file.

Holiday Homework
Class: XII
Subject: Legal Studies

PROJECT WORK

INTRODUCTION: The student is required to do a project on ‘Understanding Case Laws’

OBJECTIVES: The project work aims to enable students to:

- identify a legal problem and provide its remedy
- select relevant legal sources and conduct research
- analyse and distinguish between types of cases
- apply case laws and relevant statutory laws

METHODOLOGY: The student is required to select any 3 decided cases related to the curriculum where one must be civil in nature, one criminal and one constitutional in character.

The research on the cases must include the following points:

- Name of the case
- Parties to the case
- Citation to the case
- Bench
- Nature of the case (Civil, Criminal or Constitutional)
- Facts of the case and issues involved
- Decision of the case including Ratio Decidendi and Obiter Dicta

GUIDELINES

- The project should be completely handwritten by the student.
- It must contain 15–25 pages of written content.
- Each section/part of the project should be well explained in detail.
- Students must include relevant pictures/images related to the topic to enhance presentation and understanding.
- The work should be neat, creative, and properly organized with suitable headings and subheadings.

Holiday Homework (2026-27)

Class: XII

Subject: Sociology (039)

The Sociology paper (code 039) in class XII examination will consist of 80 marks in Theory and 20 marks in Practical Project, both of which will be externally evaluated.

PRACTICAL PROJECT WORK

Prepare a Project File on any topic from the syllabus. It must be an individual and original work.

Key Instructions to be Followed:

- The project should be made on A4 size plain sheets, and should be compiled in a neatly bound ring folder.
- No use of glitter/sequence.
- Project file should contain at least 35-40 sheets.
- Supplement your project using pictorial images, graphs, maps, political cartoons, pie-charts, flow-charts and newspaper clippings pertaining to your topic.
- Comparative study – the project should be interdisciplinary.

Possible Topics/Themes provided in the NCERT textbook:

1. Public Transport
2. Role of Communication and Media in Social Life
3. Household Appliances and Domestic Work
4. The Use of Public Space
5. Changing Aspirations of Different Age Groups
6. The 'Biography' of a Commodity

Other Potential Topics:

7. Unorganized and Informal Labour Force in India: Legal Issues and Social Concerns (such as construction workers, factory workers, mine workers, and the like).
8. Caste in 21st Century India
9. The Practice of Untouchability
10. Female Feticide and Infanticide in India
11. Communalism and Secularism
12. Drug Abuse by Youth
13. Honor Killings
14. Gender Inequality/Discrimination
15. Racism
16. Child Labour
17. Family, Marriage and Kinship
18. Illiteracy: The Role of Education in Society

Methods used to accomplish the Project:

- Observation
- Survey/Questionnaire
- Archival data
- Interviews

Format for Project:

1. **Introduction: Research Theme**
2. **Statement of Purpose**
3. **Research Question**
4. **Sociological Relevance: Secondary Research Review**
[Internet + Books and Newspapers + Journals]
5. **Choice of Research Method:**
 - a.) Survey – Advantages and Disadvantages
 - b.) Questionnaire – Advantages and Disadvantages
6. **Primary Research: Detailed Procedure of Implementation**
 - Time Frame
 - Sample Size
7. **Analysis of the Data**
8. **Limitations of the Research**
9. **Conclusion**

Marks Break-up (as per CBSE):

Project: 15 Marks

Viva: 5 Marks

Assignment Questions

Chapter 2: The Demographic Structure of the Indian Society

Chapter 3: Social Institutions: Continuity and Change

Chapter 5: Patterns of Social Inequality and Exclusion

The following questions are all long-answer type. They are to be completed in the Sociology notebooks:

Q1. Explain the three stages of the theory of demographic transition.

Q2. What does the ‘bulge’ in the population pyramid indicate?

Q3. Does India benefit from the ‘demographic dividend’? Discuss.

Q4. Why is a falling dependency ratio a source of economic growth and prosperity?

Q5. What is meant by the age structure of the population? Why is it relevant for economic development and growth?

Q6. In what sense has caste become relatively 'invisible' for the urban upper castes?

Q7. Highlight the sources of conflict between national development and tribal development.

Q8. What are the rules that the caste system imposes?

Q9. Reflect upon the isolation versus integration debate of tribal populations.

Q10. Explain the difference between matriliney and matriarchy, using examples.

Q11. Highlight the policies designed to address caste inequalities.

Q12. Define:

- Prejudice
- Stereotype
- Discrimination
- Social Exclusion

Q13. Why were women's movements of the nineteenth century often termed as middle-class reform movements?

Q14. What is the relationship between disability and poverty?

Q15. "The impoverished and exploited circumstances under which adivasis live can be traced historically to the pattern of accelerated resource extraction started by the colonial British government and continued by the government of independent India." Explain.

Holiday Homework

Class: XII

I. Case Profile

Subject: Psychology (037)

Do research on the topic that you have selected for your case profile. Developing a case profile would primarily involve the use of qualitative techniques such as observation, interview, survey, etc. Some examples of topics for the case profile could be an individual who has excelled in areas like sports, academics, music, etc. or having special needs like learning disability, autism, Down's syndrome, etc. or those with interpersonal social problems, i.e., poor body image, obesity, temper tantrums, substance abuse, not getting along with peers, withdrawn, etc. Use qualitative methods like observation and interview to collect information from as many sources as you can like parents, friends, teachers etc. Also use some quantitative methods like various psychological tests to collect information regarding subject's psychological attributes as in intelligence, aptitude, personality etc.

Suggested Format for Preparing a Case Profile

It is suggested that the case be developed in a narrative format along the following points:

1. Introduction
 - A brief introduction of about one or two pages presenting the nature of the problem, its incidence, likely causes, and possible counselling outcomes.
 - A half page (brief) summary of the case
2. Why have you chosen this case? (Reason/s for choosing this case)
3. Identification of Data
 - Name (may be fictitious)
 - Diagnosed Problem
 - Voluntary or Referral (i.e., by whom referred — such as teacher, parent, sibling, etc.)
4. Case History
 - A paragraph giving age, gender, school attended, class (grade) presently enrolled in, etc.
 - Information about socio-economic status (SES) consisting of information about mother's/father's education and occupation, family income, house type, number of members in the family— brothers, sisters and their birth order, adjustment in the family, etc.
 - Information about physical health, physical characteristics (e.g., height and weight), any disability/illness (in the past and present), etc.
 - Any professional help taken (past and present), giving a brief history of the problem, attitude towards counselling (indicating the motivation to seek help, etc.)
 - Recording signs (i.e., what is observed in terms of facial expressions, mannerisms, etc.) and symptoms (i.e., what the subject reports, for example, fears, worries, tensions, sleeplessness, etc.)

Psychological tests conducted on the subject have to be attached along with their results.

Concluding Comments

A summary of the case should be written in the end.

Bibliography

Answer the following questions.

Chapter -1

VARIATIONS IN PSYCHOLOGICAL ATTRIBUTES

- Q1. Define intelligence.
- Q2. Calculate the IQ of a 14-year-old with mental age of 12 years.
- Q3. Explain the concept of intellectual deficiency.
- Q4. Intelligence is not a single entity. Which theory of intelligence supports this view?
- Q5. What are the two types of tests used for aptitude testing? Explain with examples.
- Q6. How does the normal probability curve explain variations in the level of intelligence?
- Q7. How does PASS model explain intelligence?
- Q8. Define Emotional Quotient. What is more important, IQ or EQ, for success in life?
- Q9. What are the factors on which creativity depends?
- Q10. Discuss the various types of tests that are used for assessment of intelligence.

CHAPTER 2

SELF AND PERSONALITY

- Q1. How does the concept of Ayurveda classify people and their personality?
- Q2. Define the following terms:
Self-concept, self-efficacy, self-regulation, self-control, self esteem
- Q3. Ravi is a 25-year-old youth who possesses high motivation, lacks patience, feels short of time and always feels pressurized by work.
 - a) Which type of personality do you think Ravi possesses?
 - b) Name the psychologists who have given these types of personalities.
- Q4. Distinguish between the Indian and Western Notion of Self.
- Q5. Explain Paul Costa and Robert Mc Crae's personality theory.
- Q6. What is Self-Actualization?
- Q7. Differentiate between cardinal, central and secondary traits.
- Q8. Explain the major approaches to the study of personality.
- Q9. Explain any 2 personality assessment techniques to assess an individual's unconscious motives and feelings.
- Q10. How can you use projective techniques as a method of analyzing personality?

Holiday Homework
Class XII
Subject: History (027)

General Instructions:

- The assignment is divided into two parts, namely **Part-A** and **Part-B**.
- **Part-A** – Project work.
- **Part-B** – Chapter based Assignments (Q and A)
- The assignment contains chapter wise questions ranging from MCQs, short answers, long answers and image/ passage based questions.
- These questions should be used for practice work and revision in the future.

(PART-A)

- All students have been allotted individual topics for their History project, which they are supposed to prepare as per CBSE curriculum guidelines (shared below).
- The files need to be prepared using white or coloured interleaf sheets only (no glitter or textured paper).
- Maps must be used in the beginning and wherever necessary according to topic
- Images must be labelled
- Headings and subheadings to be written clearly and in bold
- Bibliography for research must include – books, articles, websites, movies, interviews (if any), newspapers, magazines etc.
- The file carries a weightage of 20 marks in the final exam.
- The Project must have the topic on the cover
- The project file must be covered with a plastic / protective cover
- Project must be bound, and no sheets should be loose

Project Work

Research Guidelines : - Students can use **primary sources** available in city archives, newspaper cuttings, photographs, film footage and recorded written speeches.

Secondary sources such as online publications, encyclopaedias and independent studies can also be used after proper authentication. **(please do not use Wikipedia and ChatGPT as a primary source)**

Criteria for assessing the project-

1. Presentation
2. Comprehension
3. Research work
4. Case study from India- Facts/figures
5. Images/ Media/ Maps/Tables/ Newspaper cuttings/Articles/ Timeline/ Visuals

PROJECT GUIDELINES AND REGULATIONS –

1. Project must be handwritten as neatly as possible (printouts can be used, but sparingly)
2. Minimum - 45 pages
3. Maximum - 50 pages
4. Map(s) pertaining to the topic must be included
5. All images used, must be labelled and identified
6. Topics and subtopics must be clearly defined
7. Project must have a proper cover with plastic covering
8. Project should be made using single coloured A4 sized ruled sheets (please avoid using heavily floral printed or patterned sheets)
9. DO NOT use glittery, textured or black sheets of paper
10. All work must be original

FINAL PRESENTATION/LAYOUT OF THE PROJECT

<p>Section 1: History Project (Title of the Project) Name: School: Year: Roll no.:</p>	<p>Section 2: Certificate of authenticity (To be pasted) Teacher's Signature</p>	<p>Section 3: Index</p>
<p>Section 4: Acknowledgement (Acknowledging the institution, the place(s) visited and the person(s) who has/ have helped you.)</p>	<p>Section 5: Preface: Problem/ Aim Statement/Objective of the project</p>	<p>Section 6: Introduction: (Objective/learning outcomes of the project. Introduce the selected topic by giving some historical background)</p>
<p>Section 7: Summary of the topic Activities done during the Project</p>	<p>Section 8: Observations and Analysis</p>	<p>Section 9: Conclusion Summarized suggestions of findings/Future scope of study</p>
<p>Section 10: Appendix Person consulted, Bibliography, Books, Websites, Films/ Television referred.</p>	<p>Section 11: Values and Life skills learned through the project</p>	<p>Section 12: Thank you</p>

**Final assessment and Viva by both Internal + External examiners
(Project work 10 + 10 = 20)**

Steps involved in the conduct of the project:

Students may work upon the following lines as a suggested :

- Choose a hypotheses/ aim for their topic
- Collection of the research material/data
- Organization of material/data
- Present material/data
- Analysing the material/data for conclusion

Viva-Voce

- At the end of the stipulated term, each student will present the research work in the Project File to the External and Internal examiner.
- The questions should be asked from the Research Work/ Project File of the student.
- The students will ensure that the file submitted by the them is his/her own original work.
- In case of any doubt, authenticity will be checked and verified

*** Instructions and guidelines for Part – B are given below –**

- All answers must be in **point form and complete sentences.**
- The **questions and answers must be written neatly in the fair notebook.**
- **The MCQs and Picture-based worksheets to be printed, solved and pasted in the notebook.**
- Use a **highlighter** to mark the **answer** in the MCQs.
- Coloured ink (except red) can be used for writing the questions only
- **Answers must be written in blue or black ink only**
- Maps, images and any other relevant pictural reference must be used where needed.
- Students must use the textbook and the internet for researching answers.
- At the end of each answer, a line must be drawn to signify the end of the answer before the next one begins.
- **All map work to be done using a sharp pencil or coloured pencils (no ink on maps).**
- **Maps to be pasted chapter-wise at the end** of the questions and answers.
- **All maps must have a title**

(PART-B)

HISTORY BOOK PART-I

THEME-1 BRICKS, BEADS AND BONES

The Harappan Civilisation

1. Picture based questions –

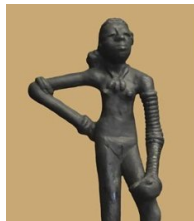
Identify the image and choose the correct answer from the options given –



- a) horse b) bull c) dog d) unicorn



- a) King-Priest b) Head Priest c) A God d) Priest-King



- a) A dancing girl b) a Queen c) a Priestess d) Mother-goddess

What are the main features of the seal below?



- a) script and lamp b) animal and script c) lamp and script d) animal and lamp



- a) a reservoir b) a dockyard c) a field d) a warehouse

2. Short Answer Questions (3 points per answer) (Answer Any 5) –

1. What is the difference between the Citadel and the lower town?
2. ‘One of the most distinctive features of the Indus Valley Civilisation was its carefully laid out drainage.’ Justify this statement with suitable examples.
3. What is the significance of studying graves and burial sites? How do they help archaeologists understand ancient Harappan society?
4. How are centres of craft production identified by archaeologists?
5. Explain the strategies employed by the Harappans to procure raw materials.

6. Explain in brief, the theories on governing and political authority of the Indus Valley Civilisation?
7. Critically analyse the contributions of Alexander Cunningham and John Marshall towards the history and archaeology of the Harappan civilisation.

3. Write a short note on the following –

1. Chanhudaro
2. Great bath
3. Trade relations of the Harappans with contemporary civilisations
4. The Indus Valley script
5. Significance of standardised bricks
6. Seals of the Indus Valley
7. Irrigation in the Indus Valley

4. Long answer questions –

1. Write a detailed account of the subsistence strategies and agricultural technologies that were prevalent in the Indus Valley.
2. Explain in detail, the craft production and economic activities of the Indus Valley people.
3. What are the various theories pertaining to the decline of the Indus Valley Civilisation?
4. What are the problems faced by archaeologists in piecing together the past?
5. How do archaeologists substantiate that town planning was prevalent in the Harappan culture?

THEME 2 – KINGS, FARMERS AND TOWNS

Early states and economies 600 BCE – 600 CE

1. Map –

1. On a political map of India, mark the following –

- | | | |
|--------------|---------------|-----------------------|
| 1. Magadha | 2. Patliputra | 3. Koshala |
| 4. Kuru | 5. Panchala | 6. Gandhara |
| 7. Avanti | 8. Ujjayini | 9. Taxila |
| 10. Varanasi | 11. Vajji | River - Ganges |

2. On a political map of India, mark the extent and location of the Mauryan empire.

3. On a political map of India, mark the extent and location of the Kushanas, Satavahanas and Shaka dynasties.

2. MCQs –

1. Which of the following Indian scripts were deciphered by James Prinsep?

- | | |
|-------------------------|-------------------------|
| a) Sanskrit and Pali | b) Brahmi and Pali |
| c) Brahmi and Kharosthi | d) Sanskrit and Prakrit |

2. What is epigraphy?

- | | |
|------------------------|----------------------------------|
| a) Map making | b) Studying inscriptions |
| c) Studying coastlines | d) Printing historical documents |

3. Which of the following is not a Mahajanapada?

- | | |
|-------------|------------|
| a) Taxila | b) Magadha |
| c) Gandhara | d) Vajji |

4. Which of the following statements is incorrect regarding the 6th century BCE?

- a) It was a turning point in Indian history
c) Mahajanapadas emerged
- b) Coinage developed during this time
d) The Rigveda was composed
5. Who established the Mauryan empire?
a) Ashoka
c) Kautilya
- b) Chandragupta Maurya
d) Bimbisara
6. The most powerful Mahajanapada of the 6th century BCE was _____.
a) Magadha
c) Kuru
- b) Vajji
d) Vatsa
7. Which of the following is not a literary source for understanding the Mauryan empire?
a) Ashokan inscriptions
c) Sculpture
- b) The accounts of Megasthenes
d) The Arthashastra
8. Which of the following was not a provincial centre for Mauryan administration?
a) Taxila
c) Suvarnagiri
- b) Ujjayini
d) Kalinga
9. According to Megasthenes, how many sub-committees were there in the Mauryan army?
a) seven
c) five
- b) six
d) eight
10. What is Tamilakam?
a) The name of the ancient Tamil country
c) The regions ruled by the Shakas
- b) The region conquered by Chandragupta Maurya
d) The region conquered by Ashoka
11. The rulers of which dynastic order referred to themselves as '*Devaputra*'?
a) Satavahanas
c) Kushanas
- b) Mauryas
d) Guptas
12. Who composed the *Prayaga Prashasti*?
a) Haridasa
c) Tulsidas
- b) Samudragupta
d) Harishena
13. Which dynasty created enormous sculptures to depict their notion of Kingship?
a) Satavahanas
c) Guptas
- b) Kushanas
d) Mauryas
14. Who is *devampiya*?
a) Chandragupta Maurya
c) Buddha
- b) Chanakya
d) Ashoka
15. Which dynasty introduced gold coins in India?
a) Gupta
c) Maurya
- b) Kushanas
d) Cholas

3. Picture based questions –

Identify the image and choose the correct answer from the options given –



1. a) The Ashokan pillar b) The Lion Heads c) The Lion Capital d) Magadha tigers



2. a) Roman coins b) Kushana coins c) Gupta coins d) Mauryan coins



3. Which dynasty was responsible for constructing the above statue?
a) The indo-Greeks b) The Mauryas c) The Guptas d) The Kushanas



4. Identify which dynasty minted these coins?
a) The Kushanas b) The Guptas c) The Indo-Greeks d) The Romans



5. Who is on the coin?
a) Menander b) Ashoka c) Megasthenes d) Samudragupta

4. Short answer questions (any 6) –

1. Explain how the Mahajanapada of Magadha rose to prominence.
2. What are the literary sources that have been used to reconstruct the Mauryan administration?
3. What were the strategies for increasing agricultural production (between 600 BCE to 600 CE)
4. Describe the social classes of rural India between 600 BCE to 600 CE.
5. Write an account on trade relations between the Indian subcontinent and the contemporary world.
6. What was the contribution of James Princep towards Indian epigraphy?
7. Explain how coinage evolved in ancient India, and how do coins help understand ancient economies?

5. Write short notes on –

1. Magadha
2. Arthashastra
3. Ashoka's *Dhamma*
4. The significance of land grants
5. Numismatics
6. Commercial activities of ancient India between 600 BCE to 600 CE
7. Samantas
8. Prabhavati Gupta

6. Long Answer Questions –

1. Explain how Magadha emerged as the most powerful Mahajanapada and the seat of the Mauryan empire?
2. What were the new notions of Kingship that emerged after the decline of the Mauryan empire?
How were the views on kingship of the Kushanas different from those of the Mauryas?
3. Explain the pros and cons of inscriptional evidence and other written records.
4. What were the features of Mauryan administration? How did the Mauryans establish their control over such a vast territory across the Indian subcontinent?
5. Explain the main features of the Mahajanapadas.

Holiday Homework (2026-27)
Class: XII
Subject: Web Application (803)

Part A – Very Short Answer Questions:

1. What is JavaScript?
2. Define a variable in JavaScript.
3. What is the use of the document.write() function?
4. Name any two data types in JavaScript.
5. What is an array?
6. Which symbol is used for single-line comments in JavaScript?
7. What is the purpose of the length property in strings?
8. Write the syntax to declare a function in JavaScript.
9. What is the use of the push() function in arrays?
10. Differentiate between == and ===.
11. What is the output of:

```
"HELLO".toLowerCase();
```

12. Which method is used to convert a string into uppercase?
13. Name the function used to display an alert box.
14. What is the use of the pop() method?
15. What is an event in JavaScript?

Part B – Short Answer Questions:

1. Explain the use of string functions with examples:
 - substring()
 - indexOf()
 - replace()
2. Give an example to explain the JavaScript functions and arrays.
3. Describe the JavaScript terms –object methods and object properties.
4. Declare a function stringsjava in JavaScript to accept two string arguments. The function should:
 - a. Convert both the strings to lowercase.
 - b. Search for string1 in string2 and display the string if found.
 - c. Replace all occurrences of letter I with ! in string2.
 - d. Display the first character of string1.
5. Consider the following code:

```
var cars = ["Honda", "BMW", "Audi", "Porsche"];
```

Write commands in JavaScript to:

- a. Add an item "Volvo" to the array cars at the end.

- b. Remove first element from the array.
- c. Display number of elements in the array.
- d. Add following array to an array cars.

```
var person = ["Rajan", "Yagya", "Munish"];
```

6. Consider the string "Life is Beautiful". Write a function mystring() that performs the following tasks:
 - a. Displays the length of the string.
 - b. Displays the string after replacing space " " with "*".
 - c. Finds the position of the first occurrence of "if" and displays it.
7. Given an array:

```
Classes=["AI", "ML", "DS", "Security", "RDBMS"]
```

What will be the output of the following?

- a. `document.write(Classes.pop());`
 - b. `document.write(Classes.push("NoSQL"));`
 - c. `document.write(Classes.unshift("Prompt", "UI"));`
8. Given a string:

```
str='The return statement can be used to return a value at any time'
```

What will be the output of the following statements?

- a. `document.write(str.indexOf('return'));`
- b. `document.write(str.match('to return'));`
- c. `document.write(str.replace('value','output'));`
- d. `document.write(str.substring(4,10));`

Part C – Long Answer Questions

1. Explain JavaScript operators with suitable examples.
2. Describe different types of loops in JavaScript with syntax and examples.
3. Explain string manipulation in JavaScript using suitable programs.
4. What are arrays? Explain different array operations with examples.
5. Explain functions in JavaScript. Write the advantages of using functions.
6. Define conditional operator with suitable example.

Part D – List the Built-in Function for each of the following:

1. A function to take user input as string.
2. The function used to convert to an integer.
3. A function to convert to a floating-point number.
4. A function to check if something is Not a Number.

5. Used to display data or a message in a box on the window.

Part E–Case Study Based Questions

Case Study 1

A teacher develops a webpage that calculates total marks entered by students using JavaScript functions.

Questions:

1. Why are functions useful in JavaScript?
2. What is the difference between arguments and parameters?
3. Write a function to calculate sum of two numbers.

Case Study 2

A food delivery company created a web application where users can search restaurants, place orders, and track delivery status in real time.

Questions

1. What is the role of JavaScript in this application?
2. What is the use of hyperlinks in web pages?
3. Explain the difference between static and dynamic webpages.
4. Why is internet connectivity essential for this application?
5. Name any two web browsers.

Case Study 3

A company has developed an online shopping website where customers can browse products, add items to the cart, and place orders. The website uses HTML, CSS, JavaScript, PHP, and MySQL database. Customer details and order information are stored in the database.

Questions

1. Which language is used to design the structure of web pages?
2. Write any two features of JavaScript in web applications.
3. What is the purpose of CSS in the website?
4. Why is database connectivity important for this website?
5. Suggest two security measures for protecting customer data.

Part F- Write java script source code to create a function for each of the following:

1. A function to find whether the number is odd or even.
2. A function to find the sum of 3 numbers.
3. A function to find the square of a number given by user

4. A function to merge strings.
5. Program to find a character in a string.
6. A function to change the case in a string (lower to upper).

7. A function that will delete the last element and show the name in uppercase from an array arr1 that was passed to it as an argument.

Part G - Write the Java Script Code for the following:

1. Write a program with 2 functions to find simple or compound interest depending on user input. Also take user input for principal, rate and time.
2. Write a program where a function MyFunc() takes the user name and displays a message: "Hello username welcome to this page!"
3. Write a program with a function to find the smallest out of 3 numbers.
4. Write a program with a function to take user input in kilograms and convert it to grams.
[1 Kilogram = 1000 grams]
5. Write a program with a function sortnum () to sort 3 numbers in ascending order.

Note:

Complete Parts A to E in the notebook.

Parts F and G should be done on the computer system and submitted as a hard copy along with the program and its output.

Holiday Homework (2026-27)

Class: XII

Subject: Fashion Studies

Project 1:

Collect the pictures of the following and paste them on A4 size sheet and create a folder or Style file.

Source: Collect the pictures from internet, magazines or newspapers.

- Women's wear garments
- Necklines and their variations
- Different kind of collars
- Sari blouses
- Skirts

Project 2:

Body adornment: body painting, tattooing, scarifications

Procedure:

- Refer to books, magazines and the internet to find out about a primitive or tribal community from your country or any other.
- Find pictures of different decorations and body adornment which typify the culture of this community.

Project 3:

Draped garments in ancient Western and Asian civilizations

Procedure:

- Refer to books, magazines and internet to identify pictures of draped garments according to the civilization.
- Make a step-by-step drawing of the process of draping of the garment on sheets/notebook.

Project 4:

Industrial Revolution during the British Raj in India

Procedure:

- Identify specific categories of textiles and clothing worn in England and Europe which were based on Indian exports during the Industrial Revolution.

Refer to books and internet to do the following:

- a) Find and photocopy an article on the impact of restrictive rules on Indian weavers during the British Raj.
- b) Identify pictures of European garments which used Indian textile and prints.

- a) Use photocopies of visuals and stick them in a notebook with suitable labels indicating the product (textile and clothing), reference name (if any) and year.

Project: 5

- Construct a Basic Bodice block pattern on full scale as well as on 1/4Scale on pattern making sheet.
- Neckline and their variation. Construct patterns of various types of necklines on full scale and as well as on 1/4'' scale also and prepare a A/4 size file to compile all the necklines.
- Write down Aim, Principles, Requirements and procedure.

Holiday Homework (2026–27)

Class – Xii

Subject: Painting (Code No. 049)

To make your vacation creative and productive, you are assigned the following Holiday Homework for Painting. Complete all work neatly, creatively, and submit it on time.

A) THEORY WORK (REGISTER WORK)

Write detailed notes on the following topics in your register and paste relevant photographs/illustrations for each topic.

Unit-I

1. The Rajasthani and Pahari Schools of Miniature Painting
2. The Mughal and Deccan Schools of Miniature Painting
3. The Rajasthani School – Origin and Development
4. Sub-Schools of Rajasthani School: Mewar, Bundi, Jodhpur, Bikaner, Kishangarh and Jaipur

Each topic should include introduction, historical background, important features, and suitable pictures.

B) PRACTICAL WORK (A3 SIZE ART FILE)

Use any suitable medium (Water Colour / Poster Colour / Acrylic / Tempera / Mixed Media) and complete the following artworks in your A3 Art File:

5. Still Life Study (Group of Objects) – Water Colour, Poster Colour, Pencil Shading.
6. Five Theme-Based Painting Compositions – Fully Coloured
7. Simple Composition from Folk Art (Madhubani / Warli / Gond / Alpana / Rangoli)
8. Sketches from Life and Nature (Pencil / Pen & Ink)

All paintings must be colour-completed with neat presentation and originality.

SUBMISSION INSTRUCTIONS

- Theory Work: Complete in Register with notes and photo pasting.
- Practical Work: Complete in A3 Art File with full colour work.
- Submit all homework on the first day after vacation.

Holiday Homework
Class: XII
Subject: Political Science (028)

Prepare a project file on any topic from the syllabus. It must be an individual work.

Key Instructions to be followed:

1. The project should be made on A4 size plain colored sheets (**sheets should not have any printed border**) and should be submitted in a neatly bound ring folder.
2. File cover should be either a cartoon or collage related to the topic
3. The Project file should contain at least 45 sheets.
4. A Model/PPT of 7-10 slides summarizing the project should also be made.
5. No use of glitter/Sequence tapes. Paper tapes can be used.
6. Define your project using Pictures, graphs, maps, cartoons and its interpretation, pie chart, flow chart, Timeline, newspaper clippings wherever possible. **(Mandatory)**
7. Comparative study – The project should be interdisciplinary.

Note: Your project can be supported with Role play, Skit, Presentation, Model, Field survey, Mock Drill/ Mock event, Interviews etc.

Project Layout:

1. Cover Page:
 - (a) Project details - Title
 - (b) Student Information – Name, Class, Section, Board Roll No.
 - (c) School
 - (d) Year
2. Certificate
3. Acknowledgement
4. Table of contents
5. Executive Summary – Not more than 150 words.
6. Relevant information, Objective, Present Information, Background
7. Cause, event, advantage/disadvantage, short term and long term implications, relevance,
8. Summary and Conclusion
9. Appendix
 - (a) List of references
 - (b) Bibliography

ASSIGNMENT

Very Short Answer (1/2 Mark)

1. What was the Soviet system?
2. What was the immediate cause of the disintegration of the USSR?
3. What do you understand by unipolar world?
4. Define Marshall Plan.

5. Name the countries that did not support the Maarsrith Treaty.
6. What is meant by the expression South Asia?
7. When was the UN Charter signed? How many countries signed the UN Charter?
8. Name the Permanent members of the UN Security Council. Name the present Non- permanent members of the UN Security Council.

Short Answer (4 marks)

9. What were the positive and the negative features of the Soviet system?
10. How was Gorbachev responsible for the disintegration of USSR?
11. 'Military and Democracy are two sides of the same coin in Pakistan'. Explain.
12. Write a note on ethnic conflict in Sri Lanka.
13. Explain the period after 1971 in Bangladesh.
14. Write a note on Indo-Pak Conflict
15. Explain European Union as a highly influential regional organization.
16. How has Japan emerged as a new center of power in the contemporary world?
17. Highlight the areas of contentions between:
 - (a) India and China
 - (b) India and Pakistan
18. How is traditional security different from the non- traditional security?

Long Answer (6 marks)

19. What were the reasons for the disintegration of the Soviet Union?
20. Mention the consequences of the disintegration of Soviet Union.
21. What was the shock therapy? What were the consequences of shock therapy?
22. Mention the former Soviet Republics, which witnessed civil war in 1990's.
23. Discuss India's relation with the USSR during the cold war?
24. United Nation stands for democracy, but itself is an undemocratic organization. Throw light on the statement.
25. How did China rise to be economic super power?
26. Several factors have contributed to Pakistan's failure in building a stable democracy. Explain
27. What is India's Security Strategy?
28. 'Reforming UN means restructuring the Security Council'. Comment.

Map Ques

29. Mark the following on the map.
 - a) The EU members (Map of Europe)
 - b) SAARC Countries
 - c) ASEAN Members
 - d) Countries that emerged independent from USSR
30. Cartoon Interpretation on the following pages in the textbook.
 - a) Page 19
 - b) Page 23
 - c) Page 59
 - d) Page 21
 - e) Page 46

Holiday Homework (2026-27)
Class -XII
Subject: Physical Education (048)

PRACTICAL FILE WORK- 2026

Total three practical to be done in practical file

1. Yoga as preventive measure for lifestyle diseases.
(Any two asana to be written for EACH lifestyle disease, including their procedure, benefits and contraindication)
2. SAI Khelo India Fitness Administration Test for school going children.
3. Labelled diagram of field & equipment History, Rules, Terminologies & Skills of any ONE game recognised by IOC (International Olympic Committee).
(Football, Volleyball, Kabaddi, Wrestling, Judo, Badminton, Table tennis, Basketball, etc)

ALL THE PRACTICALS MUST BE DONE IN THE SPECIFIED FILE FOR PHYSICAL EDUCATION CLASS XII ONLY.

<https://drive.google.com/file/d/196dgGxfUfD9bXJqaeankYN-N02EVWu6W/view?usp=sharing>

FOR THE REFERENCE

Holiday Homework
Hindustani Vocal (034)
Class – XII

नीचे दिए गए विषयों पर एक प्रैक्टिकल फ़ाइल बनाएं:

- राग मालकौंस का आलोचनात्मक अध्ययन और उसकी विलंबित ख्याल, द्रुत ख्याल और तराना की स्वर-लिपि।
- धमार ताल का विवरण, इसकी ताल-लिपि और ठाह, दुगुन, तिगुन व चौगुन लयकारी।
- निम्नलिखित का संक्षिप्त अध्ययन: अलंकार, कण, मीड, खटका, मुकी और गमक।
- रागों के समय सिद्धांत का ऐतिहासिक विकास।
- उस्ताद फैयाज खान का जीवन परिचय और संगीत में उनका योगदान।

Holiday Homework (2026-27)
Class XII
Subject: Computer Science

Python Project: “Library Management System using Functions & File Handling”

Project Description

Design a Python program that manages library records efficiently using **Functions** and **File Handling** in Python.

The program should maintain details of books issued in a library and provide different menu-driven operations.

Menu Options

```
===== Library Management System =====
```

1. Add New Book Record
2. Display All Book Records
3. Search Book by Book ID
4. Issue a Book
5. Return a Book
6. Delete a Book Record
7. Show Library Summary
8. Exit

Project Tasks

(To be completed using Functions + File Handling)

1. Create a function to add a new book record

Inputs:

- Book ID
- Book Name
- Author Name
- Quantity Available
- Price

Requirements:

- Store records in a **binary file** using the `pickle` module.

2. Display all book records

Requirements:

- Read all records from the binary file.
- Display details using loops and formatted output.

3. Search a book by Book ID

Requirements:

- Accept Book ID from the user.
- Search the binary file.
- Display complete book details if found.

4. Issue a book

Requirements:

- Search the required book using Book ID.
- Reduce quantity by 1 if available.
- Display message:
 - “Book Issued Successfully”
 - or “Book Not Available”

5. Return a book

Requirements:

- Increase quantity of the returned book by 1.
- Update the file using read-modify-write logic.

6. Delete a book record

Requirements:

- Delete a book using Book ID.
- Copy all remaining records to a temporary file.
- Rename the file after deletion.

7. Library summary function

Display:

- Total number of books
- Total available quantity
- Most expensive book
- Book with maximum quantity

Optional:

- Generate report in a text file for easy viewing.

File Handling Requirement

Students must:

- Use **binary files** with the `pickle` module.
- Demonstrate:
 - File writing
 - File reading
 - File updating
 - File deletion/modification

Extension Ideas (Optional)

Students may additionally:

- Generate a book issue receipt in text format.
- Add fine calculation for late returns.
- Categorize books into:
 - Fiction
 - Non-Fiction
 - Academic
 - Reference
- Use dictionary/list of dictionaries for storing records.
- Add password protection for librarian login.

Submission Format

Students must submit:

1. Python Script File

- `.py` program file

2. Sample Data File

Example:

- `library.dat`

3. Short Project Report containing:

- Objective of the project
- Algorithm / Flowchart
- Code snapshots
- Functions used
- Sample input/output
- Learning outcomes

4. Cover Page including:

- Student Name
- Roll Number
- Class & Section
- School Name
- Subject
- Session (2026–27)
- Project Title

Note

- Proper indentation and comments are compulsory.
- Use meaningful variable and function names.
- Project should be original and neatly documented.
- Viva questions may be asked based on the submitted project.

ग्रीष्मावकाश गृहकार्य (2026-27)

कक्षा : बारहवीं

विषय : हिंदी (302)

1. खोजबीन पत्रकारिता

- अपने आसपास की किसी छोटी समस्या को चुनें (जैसे-कचरा, ट्रैफिक, पानी की कमी)
 - जानकारी जुटाएँ:
 - क्या समस्या है?
 - कारण क्या हैं?
 - समाधान क्या हो सकता है?
- ☞ छह ककारों का प्रयोग करते हुए इसे एक रिपोर्ट के रूप में लिखें।



2. दिए गए वीडियो लिंक को देखें व संबन्धित प्रश्नों के उत्तर दीजिये-

<https://youtu.be/nQUqqay1rw8?si=aQzum9-LzygUynUN>

1. हमारी आज की सफलता को कौन चुरा लेता है?
2. आर्यन को कौन सी बुरी आदत थी?
3. परीक्षा देते समय आर्यन की स्थिति कैसी थी?
4. दादाजी ने आर्यन को पौधे के उदाहरण से क्या समझाया?
5. प्रस्तुत कहानी से हमें क्या सीख मिलती है?

(नोट- उपर्युक्त दोनों प्रश्न ए-4 शीट पर आकर्षक ढंग से कीजिए।)