



**PM SHRI KENDRIYA
VIDYALAYA MIAO, A.P
(792122)**



SUMMER VACATION- Holiday Homework

Class VI Subject – Social Science

1. Why is Earth called the 'blue planet'?
2. Draw a map of your locality using symbols in a chart paper.
3. Name the largest and smallest continent.
4. What are plains? Why are they useful?
5. Draw a world map showing five oceans, and continents (see page no. 32)
6. Draw the earth and mark equator, tropic of Cancer and tropic of Capricorn.

Class VI Subject – Mathematics

SECTION – A

What comes next in the pattern: 2, 8, 18, 32, 50, ?

(a) 60 (b) 70 (c) 72 (d) 80

If a pattern starts as ♦, ♦♦, ♦♦♦, ♦♦♦♦, how many symbols will the next step have?

(a) 4 (b) 5 (c) 6 (d) 8

Find the missing term in: 1, 4, 9, 16, , 36.

(a) 20 (b) 24 (c) 25 (d) 30

Total sides in 15 hexagons?

(a) 75 (b) 80 (c) 85 (d) 90

Pattern rule in 64, 32, 16, 8, ?

(a) Subtract 8 (b) Divide by 4 (c) Divide by 2 (d) Subtract 16

In a pattern, each term is the previous term multiplied by 5. First term is 2. Find 4th term.

(a) 50 (b) 100 (c) 125 (d) 250

Find the next number: 3, 7, 15, 31,

(a) 47 (b) 53 (c) 63 (d) 65

A pattern starts with 100 and halves each time. What is 4th term?

(a) 20 (b) 25 (c) 12.5 (d) 10

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

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.

Assertion (A): A pattern of 3, 6, 12, 24, ... has constant differences between terms. Reason (R): Multiplying by 2 at each step does not create constant differences.

Assertion (A): A pattern with 1, 4, 9, 16 is a multiplication pattern.

Reason (R): Squaring is a form of multiplication

SECTION – B

Complete and explain: 5000, 2500, 1250, , .

Pattern: ♦ ● ♦♦ ●♦♦♦. Predict next two terms with explanation.

If 20 pentagons are arranged, find total sides. Explain.

Fill missing numbers: 4, 12, 36, , 324, .

SECTION – C

A tile pattern uses 4 black tiles and 5 white tiles in repetition.

If 270 tiles are used, how many black tiles and white tiles were used?

Multiply by 2, subtract 2. Starting at 6. Find first 6 terms.

Multiply by 3, subtract 1 pattern, starting from 2. Write first 5 terms.

SECTION – D

A school builds a staircase using blocks: 1st step: 2 blocks

2nd step: 6 blocks 3rd step: 12 blocks 4th step: ?

5th step: ?

Identify pattern rule.

Find number of blocks in 4th and 5th steps.

Find total blocks in first 5 steps.

Explain how recognizing this pattern is helpful in planning.

Write pattern in words.

SECTION – E (Case Study Based Questions)

In a newly constructed hotel, a painter was assigned to decorate its 96 walls using a specific stripe pattern for aesthetic appeal. Each wall was to be painted in a repeating sequence of 2 blue stripes followed by 4 red stripes. The hotel owner wanted the pattern consistent throughout the building, making accurate pattern calculation essential for error-free decoration.

How many blue stripes will be needed?
How many red stripes will be needed?
Which stripe color will be at 95th position?
Why is pattern understanding important in such work?

MDP: Save Energy, Save Future Project Work
ACTIVITY data collection and graph
Observe the number of electrical appliances at your home :1. Bulb
Fans
TV
Refrigerator
Prepare a table and draw a bar graph using the number of electrical appliances.

Class- VI Subject - English

Paragraph Writing
Write a paragraph (80–100 words) on:
“My Favourite Festival”
OR
“How I Spent My Summer Vacation”

Read the passage and answer the questions:
“Ravi loves reading books. Every evening, he sits near the window and reads his favourite stories. One day, he found an old book in his attic. It was full of interesting tales.”

Questions:

1. What does Ravi love?
2. Where does he sit?
3. What did he find one day?
4. Write one describing word from the passage.

Write a short story (100–120 words) on:
“The Day I Helped Someone”
OR
“A Magical Pencil”

Write a notice for your school notice board about:
“Cleanliness Drive in School”

Include:

- Date
- Heading
- Content
- Name & Designation

CLASS- VI SUBJECT – HINDI

1. संज्ञा किसे कहते हैं? वे कितने प्रकार के हैं और क्या-क्या हैं? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।
2. सर्वनाम किसे कहते हैं? वे कितने प्रकार के हैं और क्या-क्या हैं? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।
3. लिंग किसे कहते हैं? वे कितने प्रकार के हैं और क्या- क्या हैं? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।
4. वचन किसे कहते हैं? वे कितने प्रकार के हैं और क्या- क्या हैं? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।
5. गर्मी के छुट्टियों में पहाड़ी स्थल में भ्रमण का अनुभव व्यक्त कर अपने सखा/सखी के नाम पत्र लिखिए।
6. अनूच्छेद लिखिए—
 - 1) जल ही जीवन है।
 - 2) अपना विद्यालय।
 - 3) खेल एवं खेल का महत्व।

CLASS- VI SUBJECT – SANSKRIT

- 1) गृहकार्य पुस्तके शब्दरूपाणि लिखन्तु –
बालक, शिक्षक, लता, पुस्तकम्।
- 2) गृहकार्य पुस्तके धातुरूपाणि लिखन्तु(त्रिषु लकारे)।
√पठ्, √लिख्, √गम्।
- 3) स्फोरकपत्रे "संस्कृत वर्णमालां" सुन्दराक्षरेण स्पष्टाक्षरेण च लिखतु।(स्वराः व्यञ्जनानि च)
- 4) शिष्टाचारस्य विषये पञ्चानां श्लोकानां संग्रहं कृत्वा लिखन्तु।

CLASS- VI SUBJECT -Science

Section A: Activity-Based Work

1. Nature Walk Record:

Observe plants and animals around you and write name of 20 plants and 20 animals found in your area.

2. Plant Observation Table- Observe 3 plants and write:

- Stem: hard/soft
- Height: short/medium/tall
- Type: herb/shrub/tree

3. Leaf Study

Collect 3 leaves and identify:

- Venation: parallel / reticulate
- Draw them neatly

4. Mini Investigation (Science Skill)

Try this simple investigation:

- What happens when you keep dough in hot oil (observe at home safely)?
Write:
- What did you change?
- What did you observe?

(Based on scientific investigation idea in lesson)

Section B: Competency-Based Questions

1. Case-Based (Nature Walk)

During a walk, students observed grass, neem tree, butterfly, and crow.

- a) Give one difference between grass and neem.
- b) How are butterfly and crow different in movement?

2. Investigation-Based

A student changes only the thickness of dough while frying.

- a) Why should only one factor be changed?
- b) What will this help the student understand?

3. Application Question

Why is grouping of plants and animals important?

4. Reasoning Question

Plants with parallel venation usually have fibrous roots. Explain.

5. Situation-Based

A fish is kept outside water.

- a) What will happen?
- b) What does this tell about habitat?

Section C: Short Answer Questions

- 1. What is biodiversity?
- 2. What is habitat? Give one example.
- 3. Define adaptation with example.
- 4. What are herbs, shrubs, and trees?
- 5. What is venation? Name its types.
- 6. What are taproots and fibrous roots?
- 7. What is scientific investigation?

Section D: Concept-Based Questions

1. Differentiate: a) Herb and Tree b) Taproot and Fibrous root

2. Fill in the blanks:

- 1. The place where organisms live is called _____.
- 2. Plants with _____ venation usually have taproots.
- 3. Grouping helps in _____ things easily.
- 4. Special features for survival are called _____.

3. True / False:

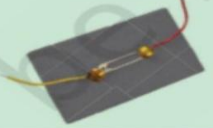
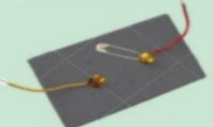
- 1. All plants have the same type of roots. ()
- 2. Fish live in aquatic habitat. ()
- 3. Science only happens in laboratories. ()
- 4. Biodiversity is the variety of living organisms. ()

Section E: Higher Order Thinking Questions

- 1. Why do cactus plants have thick stems?
- 2. Why do deodar trees have sloping branches?
- 3. Why do camels survive without water for many days?
- 4. How does habitat affect the features of animals?

CLASS VII
Subject: SCIENCE

Q1. Draw the symbols of the following electrical components:

S.No.	Electrical component
1.	Electric cell 
2.	Battery 
3.	Electric lamp 
4.	Light Emitting Diode (LED) 
5.	Switch in 'ON' position 
6.	Switch in 'OFF' position 
7.	Wire 

Q2.

Indicator	Red litmus	Blue litmus	Turmeric
Change	No change	Turned red	No change in colour

Based on the tests, identify the acidic or basic nature of the liquid and justify your answer.

Q3. Draw the circuit diagram of the following:

Q4. Grape juice was mixed with red rose extract; the mixture got a tint of red colour. What will happen if baking soda is added to this mixture? Justify your answer.

CLASS- VII

SUBJECT – SANSKRIT

गृहकार्य पुस्तके शब्दरूपाणि लिखन्तु –

देव, राम, विद्या, माला, हरि, नदी, मित्रम्, पुस्तकम्।

गृहकार्य पुस्तके धातुरूपाणि लिखन्तु(त्रिषु लकारे— लट्, लङ्, लृट्)।

√पठ्, √लिख्, √अस्, √भू।

प्राचीनभारतस्य राज्यानां नामानि, तेषाम् आधुनिकनामानि च लिखन्तु।(यथा- इन्द्रप्रस्थः-देहली, कर्णपुरम्-कानपुर)

(प्राचीन भारत के राज्यों के नाम और उनके आधुनिक नाम लिखें। (जैसे- इन्द्रप्रस्थः-देहली, कर्णपुरम्-कानपुर))

स्फोरकपत्रे सूर्यनमस्कारस्य द्वादशानाम् आसनानां भित्तिपत्राणि रचयन्तु। मन्त्रान् अपि लिखन्तु ।

CLASS- VII

SUBJECT – HINDI

संज्ञा किसे कहते हैं? वे कितने प्रकार के होते हैं और क्या-क्या हैं? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।

सर्वनाम किसे कहते हैं? वे कितने प्रकार के होते हैं और क्या-क्या हैं? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।

विशेषण किसे कहते हैं? वे कितने प्रकार के होते हैं और क्या-क्या हैं? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।

विलोम शब्द लिखिए।

सम्मान, दुर्जन, आधुनिक, स्मरण, रात्रि, दयालु, विशाल, सामर्थ्य, अमीर, उदास।

निम्नलिखित शब्दों के तीन-तीन पर्यायवाची शब्द लिखिए।

वर्षा, माँ, नभ, बादल, हवा, राजा, बाग, मोर, सौरभ, किसान, फूल, खग।

नीचे दिए गए उपसर्ग युक्त दो-दो शब्द लिखिए।

प्र, वि, आ, अनु, परा, अभि, परि, अपि।

किसी ऐतिहासिक स्थल के भ्रमण का अनुभव व्यक्त करते हुए अपनी सखी/अपने सखा को पत्र लिखिए।

अनूच्छेद लिखिए—

समय का सदुपयोग

ग्रीष्मावकाश का मेरा अनुभव
इंटरनेट के लाभ और हानि

CLASS VII

Subject: Social Science

Q.NO.1 Make a clay model of punch-marked coins or ancient pottery.

2 Draw a map of India and mark the 16 Mahajanapadas.

3 Coins were first used in India for trade and were called punch-marked coins.”

- Why were coins introduced?
- How did coins improve trade?

4. In the 1st millennium BCE, new cities developed in the Ganga plains due to agriculture, iron tools and trade.”

- Identify two factors responsible for urbanisation.
- How did iron technology help agriculture?

5. Describe the causes of the rise of cities in the Ganga plains.

Explain the political system of Mahajanapadas.

6. Discuss the Varna-Jati system and its impact on society.

7. What was the role of iron technology in urbanisation?

8. Why were Mahajanapadas mostly located in the Ganga plains?

9. Explain the importance of coastal plains in India.

10. Describe the major physical divisions of India.

11. A region receives heavy rainfall and has dense forests with unique wildlife. It is also known for living root bridges.

Q1. Identify the region.

Q2. Name one famous place in this region.

Q3. Why is this region important?

12. Map-Based Questions

- Mark the Himalayas on the map of India.
- Locate the Thar Desert.
- Mark the Ganga River and its delta.
- Show the Western Ghats and Eastern Ghats.
- Locate Lakshadweep and Andaman & Nicobar Islands.

13. Why are the Himalayas called the “Water Towers of Asia”?

14. Why are coastal plains important for human activities?

15. Why is Pangong Lake salty?

Class 7

Subject: English

Write an essay (120–150 words) on:

“The Importance of Being Kind”

OR

“A Memorable Day in My Life”

✓ Use proper paragraphing

✓ Include introduction, body, and conclusion

Write a paragraph (80–100 words) on:

“The Value of Time”

1. Notice Writing

Write a notice for your school notice board about:

“Tree Plantation Drive”

Include: Date, Heading, Content, Name & Designation

1. Informal Letter

Write a letter to your friend describing:

“How you spent your summer vacation”

Read the passage carefully and answer the questions that follow:

“One day, a poor boy named Arjun was walking through a village. He was hungry and tired. He knocked on a door and asked for some food. A kind woman gave him a glass of milk instead of food. The boy drank it gratefully and left.

Years later, the woman fell seriously ill. She was taken to a big hospital where a famous doctor treated her. After many days, she recovered. When she received the bill, she was worried as she had no money to pay.

To her surprise, the bill had already been paid. There was a note: ‘Paid in full with a glass of milk.’ The doctor was none other than the same boy she had helped years ago.”

1. Why was Arjun tired?

- a) He was sick
- b) He was hungry and walking
- c) He was playing
- d) He was studying

2. What did the woman give him?

- a) Bread
- b) Rice
- c) Milk
- d) Fruits

3. What happened to the woman later?

- a) She became rich
- b) She fell ill
- c) She travelled
- d) She moved away

4. Who treated the woman?

- a) A nurse
- b) A villager
- c) The same boy (doctor)
- d) Her friend

5. What is the moral of the story?

- a) Be selfish
- b) Kindness is always rewarded
- c) Money is everything
- d) Help only friends

1. Who was Arjun?

2. What did he ask for?

3. How did the woman help him?

4. What surprise did the woman get?

5. Write the moral of the story in your own words.

CLASS – VIII

Subject: SCIENCE

Q1. Rohit left cooked rice outside overnight. By morning, it had a foul smell.

1. What caused the spoilage of food?
2. Name the type of microorganism responsible.
3. Suggest two methods to prevent such spoilage.
4. Why does refrigeration slow down spoilage?

Q2. Disease Spread Case:

In a village, many people suffered from cholera due to contaminated water.

1. What type of microorganism causes cholera?
2. How does it spread?
3. Suggest two preventive measures.
4. Name one method to make water safe for drinking.

Q3. Assertion (A): Some microorganisms are useful in making curd.

Reason (R): They convert milk into lactic acid.

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

Q4. Assertion (A): Antibiotics should not be taken without a doctor's advice.

Reason (R): Overuse can make bacteria resistant.

Q5. Why are microorganisms called both "Useful and Harmful"? Explain with two examples each.

Q6. Why should we not keep cooked food uncovered for a long time?

Q7. Differentiate between *bacteria and viruses* on the basis of:

* Living nature *Reproduction *Examples

Q8. A farmer uses nitrogen-fixing bacteria in his field.

* What is the role of these bacteria?

* How do they help in improving soil fertility?

Q9. Why are vaccines important for preventing diseases?

Q10. If all microorganisms suddenly disappeared from Earth, what would be the impact on life? Explain logically.

Q11. Why do doctors advise completing the full course of antibiotics even if a person feels better?

Q12. Which microorganism is used in making bread?

Bacteria b) Virus c) Yeast d) Algae

Q13. If a person is physically fit but always stressed and unhappy, can he be called healthy? Justify your answer.

Q14. A student eats a balanced diet but never exercises.

* Will the student be considered healthy? Justify your answer.

* Name two benefits of regular physical activity.

Q15. In a school, some students share water bottles and lunch without washing hands.

* What health risks are involved in this practice?

* Suggest two preventive measures students should follow.

CLASS- VIII

SUBJECT – HINDI

संज्ञा किसे कहते हैं? वे कितने प्रकार के होते हैं और क्या-क्या है? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।

सर्वनाम किसे कहते हैं? वे कितने प्रकार के होते हैं और क्या-क्या है? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।

विशेषण किसे कहते हैं? वे कितने प्रकार के होते हैं और क्या-क्या है? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।

सन्धि किसे कहते हैं? वे कितने प्रकार के होते हैं और क्या-क्या है? प्रत्येक प्रकार के सूत्र लिखकर उदाहरण दीजिए।

अपने जीवन के किसी अविस्मरणीय दिन का वर्णन करते हुए अपने सखा/सखी को पत्र लिखिए।

अनूच्छेद लिखिए —

नारी शिक्षा का महत्त्व

डिजिटल युग और विद्यार्थी

पर्यावरण संरक्षण

CLASS- VIII

SUBJECT – SANSKRIT

गृहकार्य पुस्तके शब्दरूपाणि लिखन्तु —

तद्(त्रिषु लिङ्गेषु), एतद्(त्रिषु लिङ्गेषु), किम्(त्रिषु लिङ्गेषु), अस्मद्, युष्मद्

गृहकार्य पुस्तके धातुरूपाणि लिखन्तु(पञ्च लकारे)।

√अस्, √भू, √भाष्, √क्री।

कर्तव्यनिष्ठाम् अधिकृत्य पञ्च सूक्तीनां श्लोकानां वा अर्थसहितं सङ्ग्रहणं कुरुत लिखतु च। (कर्तव्यनिष्ठा के बारे में पाँच सूक्तियों या श्लोकों का अर्थसहित संग्रह करें एवं लिखें।)

स्फोरकपत्रे उपसर्गाणां व्यवहारेण शब्दनिर्माणं करोतु।

CLASS- VIII

SUBJECT – ENGLISH

Write an essay (150–180 words) on:

“The Role of Technology in Our Lives”

Use clear structure: Introduction, Body, Conclusion

Express your own ideas with examples

Paragraph Writing

Write a paragraph (100–120 words) on:

“Importance of Discipline in Student Life”

Write a notice for your school notice board about:

“Inter-House Debate Competition”

Include proper format:

- Date
- Heading
- Body
- Name & Designation

-Reading Comprehension

Read the Passage Carefully:

“Riya was known for her honesty. One day, while returning from school, she found a wallet lying on the road. It contained money and some important documents. She could have kept it, but she decided to find its owner.

After searching for some time, she found an address in the wallet and went to return it. The owner, an old man, was extremely grateful. He had lost hope of ever finding it again.

Riya refused to take any reward. She said that honesty is its own reward. Her act of kindness and integrity inspired everyone in her neighborhood.”

1. What did Riya find?

- a) A bag
- b) A wallet
- c) A book
- d) A phone

2. What was inside the wallet?

- a) Clothes
- b) Only money

- c) Money and documents
- d) Food

3. What did Riya decide to do?

- a) Keep the wallet
- b) Throw it away
- c) Find the owner
- d) Give it to a friend

4. How did the old man feel?

- a) Angry
- b) Sad
- c) Grateful
- d) Confused

5. What is the main value shown by Riya?

- a) Courage
- b) Honesty
- c) Intelligence
- d) Strength

1. Why is Riya admired by others?
2. How did she find the owner?
3. Why did she refuse the reward?
4. What lesson do you learn from the story?
5. Suggest a suitable title for the passage.

Value-Based & Creative Tasks

1. Creative Writing

Continue the story:

“One day, I found a mysterious box in my room...” (80–100 words)

1. Activity Task

Make a poster on “Say No to Plastic” with a slogan.

CLASS- VIII

SUBJECT –MATHS

Instructions:

- Do work neatly
- Show all steps
- Submit after vacation

SECTION A : A Square and A Cube

TASK 1 : Find the square roots using prime factorization

Questions :

7056

6084

7744

9216

6400

8100

9604

10000

14400

25600

TASK 2 : Find the cube roots using prime factorization

Questions:

13824

8000

15625

27000

64000

91125

110592

125000

175616

216000

TASK 3: Using the prime factorization, state whether the given number is a perfect square or a perfect cube and also find the square root or cube root of the number

Questions:

1024

4096

8000

6400

15625

10000

27000

14400

25600

110592

TASK 4: Find the length of the side of a square whose area is

Questions:

5929 m²

7056 m²
8100 m²
3600 m²
4900 m²

TASK 5: Find the smallest number by which the given numbers must be multiplied to make it a perfect square. Also find the square root of the number obtained.

Questions:

1800
500
675
2450
972
882
1575
2025
1458
1080

TASK 6: Without actually performing prime factorisation, find the cube roots by guessing (check the last digit and then find the cube root as done in figure it out)

Questions:

9261
8000
15625
27000
64000
91125
125000
175616
216000
110592

SECTION B : Power Play

TASK 7: Evaluate Using Laws of Exponents

Questions:

$(5^2 \times 5^4) \div 5^3$
 $(2^3 \times 2^5) \div 2^4$
 $(7^6 \div 7^2) \times 7^3$
 $(3^4 \times 3^2) \div 3^3$
 $(10^5 \div 10^2)$
 $(6^2 \times 6^3) \div 6^4$
 $(8^5 \div 8^3) \times 8^2$
 $(9^4 \times 9^2) \div 9^3$

$$(4^3 \times 4^5) \div 4^6$$

$$(11^2 \times 11^3) \div 11^4$$

TASK 8: Express in standard form

Questions:

0.000007286

0.00045

0.00678

0.00000091

0.005

0.00089

0.0000032

0.00901

0.00072

0.0000005

SECTION C : Memory Work

TASK 9 :Learn Cubes (1–15)

TASK 10 :Learn Squares (1–25)

SECTION D : Project Work

TASK 11 : Write about any one Indian Mathematician (Aryabhata / Ramanujan / Brahmagupta)

- Introduction
- Contributions
- Interesting Facts

Class-VIII

Subject - SOCIAL SCIENCE

Q.NO.	
1	Make a mind map of Delhi Sultanate
2	Draw or paste pictures of Qutub Minar, Vijayanagara ruins Write 3–4 lines about each
3	Why were temples and cities attacked during this period?
4	Why was Vijayanagara a powerful empire in South India?

5	Explain the policies of Muhammad bin Tughlaq and their effects.
6	Explain how Babur established the Mughal Empire.
7	Describe the reign of Aurangzeb and his policies.
8	Explain the policies of Muhammad bin Tughlaq and their effects.
9	Describe the achievements of Alauddin Khilji.
10	Explain the rise of the Mughal Empire.
11	A ruler introduced token currency but it failed. Why did it fail? What lesson can we learn from this?
12	Describe the Paik system and its importance.
13	The Battle of Saraighat is remembered as a major victory of the Ahoms against the Mughals. Why was this battle important? What does it show about Ahom military strength?
14	Explain the role of Guru Arjan and Guru Hargobind in Sikh history.
15	Why did the Sikh Gurus shift from spiritual teachings to military organisation?

Class IX

Subject - Mathematics

End-of-Chapter Exercises

1. What is the x-coordinate and y-coordinate of the point of intersection of the two axes?
2. Point W has x-coordinate equal to -5 . Can you predict the coordinates of point H which is on the line through W parallel to the y-axis? Which quadrants can H lie in?
3. Consider the points R (3, 0), A (0, -2), M (-5 , -2) and P (-5 , 2). If they are joined in the same order, predict:
 - (i) Two sides of RAMP that are perpendicular to each other.
 - (ii) One side of RAMP that is parallel to one of the axes.
 - (iii) Two points that are mirror images of each other in one axis. Which axis will this be?Now plot the points and verify your predictions.
4. Plot point Z (5, -6) on the Cartesian plane. Construct a right-angled triangle IZN and find the lengths of the three sides.
(Comment: Answers may differ from person to person.)
5. What would a system of coordinates be like if we did not have negative numbers? Would this system allow us to locate all the points on a 2-D plane?
6. Are the points M (-3 , -4), A (0, 0) and G (6, 8) on the same straight line? Suggest a method to check this without plotting and joining the points.
7. Use your method (from Problem 6) to check if the points R (-5 , -1), B (-2 , -5) and C (4, -12) are on the same straight line. Now plot both sets of points and check your answers.
8. Using the origin as one vertex, plot the vertices of:
 - (i) A right-angled isosceles triangle.
 - (ii) An isosceles triangle with one vertex in Quadrant III and the other in Quadrant IV.
9. The following table shows the coordinates of points S, M and T. In each case, state whether M is the midpoint of segment ST. Justify your answer.

S	M	T
(-3 , 0)	(0, 0)	(3, 0)
(2, 3)	(3, 4)	(4, 5)
(0, 0)	(0, 5)	(0, -10)
(-8 , 7)	(0, -2)	(6, -3)

When M is the mid-point of ST, can you find any connection between the coordinates of M, S and T?

10. Use the connection you found to find the coordinates of B given that M $(-7, 1)$ is the midpoint of A $(3, -4)$ and B (x, y) .

11. Let P, Q be points of trisection of AB, with P closer to A, and Q closer to B. Using your knowledge of how to find the coordinates of the midpoint of a segment, how would you find the coordinates of P and Q? Do this for the case when the points are A $(4, 7)$ and B $(16, -2)$.

12. (i) Given the points A $(1, -8)$, B $(-4, 7)$ and C $(-7, -4)$, show that they lie on a circle K whose centre is the origin O $(0, 0)$. What is the radius of circle K?

(ii) Given the points D $(-5, 6)$ and E $(0, 9)$, check whether D and E lie within the circle, on the circle, or outside the circle K.

13. The midpoints of the sides of triangle ABC are the points D, E, and F. Given that the coordinates of D, E, and F are $(5, 1)$, $(6, 5)$, and $(0, 3)$, respectively, find the coordinates of A, B and C.

14. A city has two main roads which cross each other at the centre of the city. These two roads are along the North–South (N–S) direction and East–West (E–W) direction. All the other streets of the city run parallel to these roads and are 200 m apart. There are 10 streets in each direction.

(i) Using 1 cm = 200 m, draw a model of the city in your notebook. Represent the roads/streets by single lines.

(ii) There are street intersections in the model. Each street intersection is formed by two streets — one running in the N–S direction and another in the E–W direction. Each street intersection is referred to in the following manner: If the second street running in the N–S direction and 5th street in the E–W direction meet at some crossing, then we call this street intersection $(2, 5)$.

Using this convention, find:

(a) how many street intersections can be referred to as $(4, 3)$.

(b) how many street intersections can be referred to as $(3, 4)$.

15. A computer graphics program displays images on a rectangular screen whose coordinate system has the origin at the bottom-left corner. The screen is 800 pixels wide and 600 pixels high. A circular icon of radius 80 pixels is drawn with its centre at the point A $(100, 150)$. Another circular icon of radius 100 pixels is drawn with its centre at the point B $(250, 230)$. Determine:

(i) whether any part of either circle lies outside the screen.

(ii) whether the two circles intersect each other.

16. Plot the points A $(2, 1)$, B $(-1, 2)$, C $(-2, -1)$, and D $(1, -2)$ in the coordinate plane. Is ABCD a square? Can you explain why? What is the area of this square?

Class-IX

Subject - Social Science

<u>Q.No.</u>	
1	Prepare a project on “Disaster Management” highlighting types of disasters, their causes, impacts and preventive measures.
2	Explain the meaning of Social Science in your own words.
3	How does Social Science help us understand society?
4	Explain the role of Geography as a discipline.
5	What is the importance of History in understanding present society?
6	Explain the interconnection of Social Science with an example.
7	Case Study Based A village is facing water scarcity. Which discipline of Social Science will help to solve this problem?
8	“Development should benefit all.” Explain this statement using Social Science concepts.
9	How does Social Science help in becoming a responsible citizen? Why is it important to connect different disciplines of Social Science?
10	How can inclusivity be practiced in a classroom?
11	Describe the key features of a democratic government.
12	Explain why democracy is considered the best form of government.
13	Discuss the merits and demerits of democracy.
14	Explain how democracy improves the quality of decision-making.
15	Why is democracy important for protecting rights of citizens?

Class IX

Subject-BIOLOGY

Q1. Project work: all students will make 3d models on given topics:

Types of muscle fibers (ref fig 6.11 NCERT book) Roll no 1 to 10

(b) Different types of epithelial tissues Roll no 11 to 20

(c) Prokaryotic cell and eukaryotic cell Roll no 21 to 30

(d) Plant cell and animal cell Roll no 31 to 40

Q2. Do complete given question in your homework notebook:

A person accidentally drank very salty water. This caused cells in the body to shrink.

1. What process caused the shrinkage of cells?
2. Name the type of solution responsible for this effect.
3. What would happen if cells are placed in pure water?
4. Name the cell structure responsible for controlling such movement.

A student says that a cell without a nucleus cannot survive for long. Do you agree? Justify your answer with reasoning.

Why do plant cells not burst when kept in hypotonic solutions, unlike animal cells?

If the cell membrane becomes non-functional, what would be the impact on the cell? Explain logically.

Describe the role of different cell organelles in maintaining the life of a cell. Support your answer with examples.

A scientist removes mitochondria from a cell. Predict what will happen to the cell and why?

Q3. Explain the structure and function of following cell organelles:

- A) Nucleus
- B) Endoplasmic Reticulum
- C) Mitochondria
- D) Plastids
- E) Ribosomes
- F) Lysosomes

CLASS-IX

Subject - HINDI

1. अलंकार किसे कहते हैं?
2. अलंकारों के कितने भेद हैं ?
3. दो मित्रों के बीच संवाद दिखाइए जिसमें अपने जीवन- लक्ष्य को चुनने की चर्चा

CLASS-IX

Subject - English

Writing skills:

Write a letter to the Editor of a newspaper about increasing population in your city and suggest measures.

Write a letter to your friend describing how you are spending your summer vacation.

You helped an old person cross a busy road today. Write a diary entry expressing your feelings.

Write a paragraph in 100-150 words on:

Importance of Time Management in Student Life” and

“Health is Wealth” – Importance of sports and healthy food.

Answer the following questions from the chapter “How I Taught My Grandmother to Read”

Describe the relationship between the grandmother and granddaughter.

Write the summary of the chapter.

Class X

Subject: Hindi

1. रचना की दृष्टि से वाक्य के भेद बताते हुए उसकी परिभाषा लिखिए ।
2. अपनी पाठ्य पुस्तक 'क्षितिज' से पाठ 'बालगोबिन भगत' के सभी प्रश्नों के उत्तर अपनी कॉपी में लिखिए ।

Class X

Subject: English

You are concerned about the increasing problem of illegal parking in your locality. Write a letter to the Editor of a national daily expressing your concern and suggesting solutions.

1. As Amitha, the Vice Head Girl of Vidya Mandir, you are aware of the increasing prevalence of cyber-attacks and unauthorised exploitation of systems, networks, and technologies affecting individuals across all demographics. Write a letter to the Editor of a national daily in about 120 words, stressing the urgent need to promote digital security among all age groups. Highlight the challenges posed by cyber threats and propose practical solutions to address this growing issue.
2. You recently purchased a water purifier from Ahuja Electronics and Electricals which is not working properly. Write a letter to the manager of the complaining about the issue and requesting repair or replacement.
3. The following data shows the numbers of vehicles in a city over five years:

Year	Number of vehicles
2019	20,000
2020	25,000
2021	32,000
2022	40,000
2023	50,000

Write an analytical paragraph analysing the increase in vehicles.

4. Read the given details of a computer:
 - Electronic device that can store and process information
 - Makes life easy and simple
 - Physical description: monitor, keyboard, CPU and mouse
 - Computer technology used in all fields: education, medicine, commerce, entertainment.

Analyse the details and write an analytical paragraph in about 120 words about the description and role of computers in today's world.

Class X

Subject: Biology

Q 1. Explain the process of transportation in plants.

(ii) Which tissue in plants are responsible for the translocation of solutes?

(iii) Mention two differences between water transportation and solute translocation in plants.

Q 2. Brief explain the step-wise process involved in the digestion of starch and protein in different parts of the alimentary canal.

Q 3. What is the role of bile produced by the liver?

Q 4. What is the role of haemoglobin in the process of respiration?

Q 5. If the muscle cell works excessively under insufficient oxygen supply what will happen?

Q 6. Compare the functioning of alveoli in the lungs and nephrons in the kidney with respect to their structure and functioning.

Q 7. Assume that you are a veterinary surgeon and you had removed a good length of small intestine of a bear that was suffering from an intestinal tumor. Now would you suggest a plant based or a meat-based diet for the bear after its recovery? Give reason for your answer.

Q 8. Do you think plant-based foods should be preferred over non-vegetarian food? How can you spread your message?

Q 9. Draw the detailed diagram of Human Alimentary Canal in humans.

Q 10. Describe the structure and functioning of nephrons.

Q 11. Explain the structure of heart and double blood circulation in detail.

Class X

Subject: Chemistry

Q1. What happens when:

(a) Lead nitrate is thermally decomposed

(b) Natural gas burns in air

(Write balanced chemical equations)

Q2. Translate and balance the following

(a) Nitric acid reacts with calcium hydroxide to form calcium nitrate and water

(b) Sodium chloride reacts with silver nitrate to form silver chloride and sodium nitrate

Q3. What is observed when hydrated ferrous sulphate crystals are heated in a dry boiling tube? Write the balanced chemical equation

Q4. Write the balanced chemical equation for the reaction between aqueous solutions Of sodium sulphate and barium chloride.

State two types of reactions in which it is Classified.

Q5. (a) (i) Define the term decomposition reaction. Write one chemical equation each for decomposition reaction where energy is supplied in the form of heat, light or electricity.

(ii) Decomposition of vegetable matter into compost is considered an exothermic reaction. Why?

(b) Why are decomposition reactions called the opposite of combination reactions? Write one chemical equation each for these

two types of reactions mentioning the name of the reactant(s) and the product(s) involved in the reactions.

Class X

Subject: Social Science

Q.NO.	
1.	Explain the process of unification of Italy
2.	Describe any three economics hardship faced by Europe in the 1830s.
3.	How was the history of Nationalism in Britain unlike the rest of Europe?
4.	Highlight the reasons for the growth of nationalist tension in Balkan region before the first world war?
5.	'Nationalism no longer retained its idealistic, liberal, democratic sentiments by the last quarter of the 19 th century in Europe'. Analyse the statement with examples.
6.	Who hosted 'Vienna congress' in 1815? Analyse the main changes brought by the 'Vienna Treaty'
7.	The first clear expression of nationalism came with the 'French Revolution' in 1789. Examine the statement.
8.	How did the local people in the areas conquered by Napoleon react to French rule? Explain.
9.	Explain liberalism in political and economic fields prevailing in Europe in the 19 th century.
10.	How did culture play an important role in creating the idea of the nation in Europe? Explain with four examples.
11.	How did the Greek War of Independence contribute in mobilizing nationalist feeling among the educated elite across Europe? Explain with examples.

12.	Write a note on The Greek war of Independence.
13.	Describe the ways in which power can be shared among different social groups.
14.	Explain the ways in which power sharing between different organs of the government results in the maintenance of balance of power.
15.	Differentiate between horizontal and vertical power sharing in modern democracies.
16.	"Sharing of powers makes a country more powerful and united." Justify the statement.
17.	How did the idea of power sharing emerge? Explain the different forms that have common arrangements of power sharing.
18.	State one prudential reason and one moral reason for power sharing with an example from the Indian context.
19.	After reading this chapter, three students drew different conclusions. Which of these do you agree with and why? Give your reasons in about 50 words.
20.	What are the advantages enjoyed by Sinhala community in Sri Lanka?
21.	What do you understand by the term civil war? When did the civil war end in Sri Lanka?
22.	Describe any three 'majoritarian measures' taken by the Sri Lankan Government to establish Sinhala supremacy.
23.	Do you think that the steps taken by Sri Lankan Government to establish the supremacy of Sinhalas were justified in the long run? Give your viewpoint.
24.	Describe any three 'majoritarian measures' taken by the Sri Lankan Government to establish Sinhala supremacy.
25.	What led to tensions between the Dutch-speaking and French-speaking communities in Belgium during the 1950s and 1960s?
26.	Give an account of the ethnic composition of Sri Lanka.
27.	Compare the situation of Belgium and Sri Lanka considering their location, size and cultural aspects.
28.	Bring out any two sharp contrasts between Belgium and Sri Lankan democracies.
29.	Make a project on "Consumer Rights" highlighting its importance, types of consumer rights and redressal mechanism.
30.	Prepare separate mind maps for the chapters "Power Sharing" and "The Rise of Nationalism in Europe" showing important concepts, key terms and examples.

PM SHRI KENDRIYA VIDYALAYA MIAO
CLASS – XII SUMMER VACATION ASSIGNMENT

Subject: English

NOTICE

1. You are Aruna/Arun, Head girl/Head boy of Kohinoor Public School, Hawapuri. Your school is organising an inter-house book review competition. Draft a notice informing the students of classes IX-XII about the competition and invite registrations for the same. Include other necessary details. Put your notice in a box.
2. You are Anuradha/Anirudh, a resident of Avalon Apartments, Nilashahar. You plan to conduct a two-week course to help the children of your apartment complex to acquire good communication skills. Prepare a notice stating the objectives of the course, giving necessary details, and encouraging the children of the complex to join the programme. Do not forget to put your notice in a box.
3. Your school is planning to conduct an inter- class seminar on the topic ‘The Importance of Mental Health’, to create awareness in adolescents. As the head of the organising committee, write a notice to inform all students about the seminar and invite registrations from classes XI – XII. Include other necessary details. Put your notice in a box.

LETTER WRITING

4. You are Prem/Paru, 12, TB Nagar, Bhopal. You would like to apply for the post of the marketing manager in a reputable firm in Mumbai. Write a letter to the public Relation Officer, Chaitanya Enterprises, Mumbai, applying for the job. Write the letter in 125 – 150 words giving your biodata.
5. You have read several articles about the increasing concerns over climate change and its severe impact on the environment. Write a letter to the editor of a national newspaper, expressing your views on the issue. Highlight the importance of immediate action and suggest measures to combat climate change. You may use some of the given cues along with your own ideas to draft the letter. You are Surina/Sumant Kumar, a resident of 146A, Prem Nagar, Blue City.
 - Issue of climate change its growing relevance
 - Consequences in what ways we feel the impact

- The role of human activities
- Call for awareness and action
- Possible solutions

6. You are Bina/Brijesh Mathur from A-45, 100 ft Road, Akashpur. You read the given advertisement and wish to apply for the post advertised. Write a job application along with your bio-data.

Jeevan Mala Hospital Requires 2 full-time Physiotherapists for its Vayupur branch. Qualifications: Certified physiotherapists from reputed. institutions Minimum 5 years experience Strong communication skills desirable Package includes competitive salary, performance bonus, professional development. Apply to: hrieevanmala@jmbospital.com
--

7. You are Mridula/Mridul from 7, M Layout, Neelpuri. You have recently come across reports of hit-and-run cases, in which mostly juveniles were involved. These incidents have taken away some precious lives. As a responsible citizen, write a letter to the editor of a national daily expressing your concern and suggest measures to prevent such incidents in the future.

Summer Holiday Homework

Class XII A (Biology)

Collect the detailed information on given topic from various means like; online platform, by reading various literatures, community interactions and journal etc. and Make an investigatory project.

S No	Student name	project
1	Anshika Verma	Awareness of Genetic disorders (Thalasemia, sickle cell anemia etc.)
2	Bhumika	Menstrual hygiene practices among schol going girls (silent struggle)
3	Manisha Yadav	Cloning vectors and recombinant DNA technology
4	Kherud	Awareness of genetically modified crops (Bt cotton, Golden rice etc.)
5	Yashiks Rai	Population interactions
6	Mosses Yobin	DNA fingerprinting and its applications (revolutionary impact)
7	Zakir Hussain	Awareness of Biodiversity Conservation (Wildlife Sancturies, national parks, empowering victory)
8	Poonam Subba	Awareness of drug and alcohol abuse among teenagers
9	Shristy Ginodia	Biotechnology and its applications

Q 1. By using punnet square depict the genotype and phenotype of the test crosses (where green pod colour (**G**) is dominant over yellow pod colour (**g**) in garden pea with unknown genotype.

Q 2. Name and explain a surgical contraceptive method that can be adopted by the male partner of couple.

Q 3. One of the major approaches of crop improvement programme is **Artificial Hybridization**. Explain the steps involved in making sure that only the desired pollen grain pollinates the stigma of a bisexual flower by a plant breeder.

Q 4. 1)explain the **Monosporic Development** of embryo sac in the ovule of an angiosperm

2) draw a diagram of mature **embryo sac** of an angiosperm ovule and label any four parts in it.

Q 5. 1) explain the formation of placenta after the implantation in human female.

2) draw a diagram showing human foetus within the uterus and label any four part in it

Q 6. It is sometime observed that the F1 progeny has a phenotype that does not resemble either of the two parents and has intermediate phenotype. Explain by taking a suitable example and working out the cross up to F2 progeny.

Q 7. Expand and explain the following techniques used in the test tube baby programme:

- a. GIFT b. ZIFT c. IUI d. IUT e. ICSI

Which one of them cannot be considered as a procedure of IVF? Give reason in support of your answer.

Q 8. Trace the journey of a zygote from the isthmus of the fallopian tube up to its implantation in the uterus of a human female. Highlight the changes the zygote undergoes during the course of its journey up to implantation.

Q 9. A homozygous tall pea plant with green seeds is crossed with a homozygous dwarf pea plant with yellow seeds.

- 1) Write the possible phenotype and genotype of F1 generation.
- 2) State the laws of Mendal that are proved true by the F1 generation.
- 3) Mention the F2 phenotypic ratio along with their possible phenotype
- 4) Write a genotype of the male and female gametes produced by F1 progeny.

Q 10. Write the specific location of the following in the testis in humans:

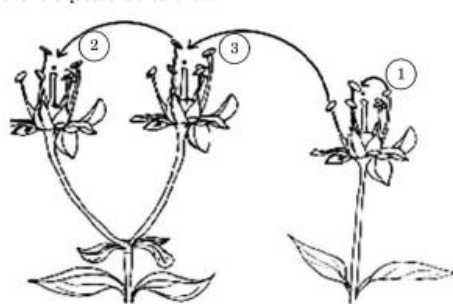
1. Sertoli cells
2. Leydig cells

Explain the coordination between gonadotropins, leydig cells and sertoli cells and their role in spermatogenesis.

Q 11. Differentiate between the followings:

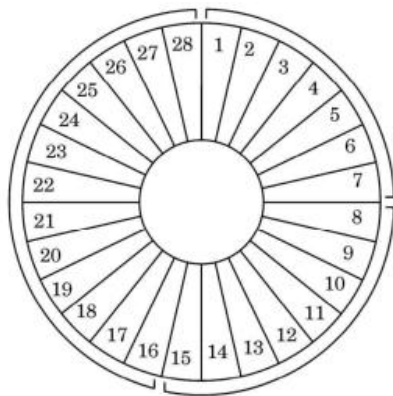
- A. Perisperm and Pericarp b. Syncarpus pistil and Apocarpus pistil C. Plumule and Radicle

Q 12. Study the diagram given below showing the modes of pollination. Answer the questions that follow:



1. The given diagram shows three methods of pollen transfer in plants. What are the technical terms used for pollen transfer method 1, 2 and 3?
2. How do the following plants achieve pollination successfully?
 - a. Water lilly
 - b. Valisnaria
3. Flowering plants have developed many devices to avoid inbreeding depression. Explain one hereditary and one physiological device which helps plants to achieve this target.

Q 13. Observe the diagram given below showing the menstrual cycle of a normal human female and answer the questions that follow:



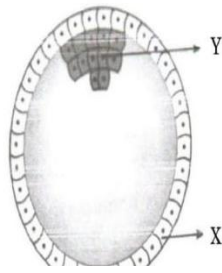
Numbers indicate the days of the menstrual cycle

1. What are the suitable technical terms used for the following?
 - a. Days 1 to 7
 - b. Days 8 -12
 - c. Days 16-28
 - d. Days 13 – 15
2. Explain the role of ovarian and pituitary hormones during the following time periods:
 - a. Days 8 – 12
 - b. Days 13 – 15
 - c. Days 16 – 28

Q 14. From which end of the ovule, and how does the pollen tube gain its entry into the embryo sac of the hibiscus flower?

b. state the fate of the male nuclei presents in the pollen tube.

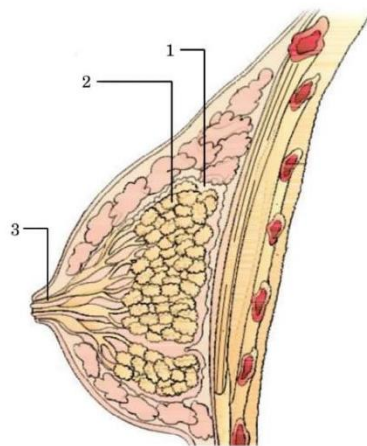
Q 15. The diagram given below shows a developmental stage of a human embryo. Answer the following question with reference to it.



- Identify and name the human embryonic stage shown.
- Mention its exact location in the normal pregnancy of a women.
- Write one function of each of the two parts labelled **X** and **Y**.

Q 16.

- When and how does **foetal ejection reflex** begin?
- Pituitary gland and uterine muscles play an important role during parturition. Explain.
- A functional mammary gland is a characteristic of all female mammals. Given below is a diagrammatic sectional view of a mammary gland. Identify the parts 1, 2, 3 and mention one function of each of them.



Q 17.

1. How are the characteristic features of pollen, anther and stigma of a maize plant suited for pollination by wind?

- How do you justify that;
 - Pollen grain are recovered from fossils?
 - Micropyle remain as a small pore in the seed coat of a fully developed seed?

Q 18. what is a cervical canal? When it is referred to as birth canal.

Q 19. Name the scientist who combined the knowledge of chromosomal segregation with mendelian principles.

B. How did they explain the similarity in behavior of chromosomes and genes?

Q 20. Which of the pollinating agent is used in small proportion by flowering plants?

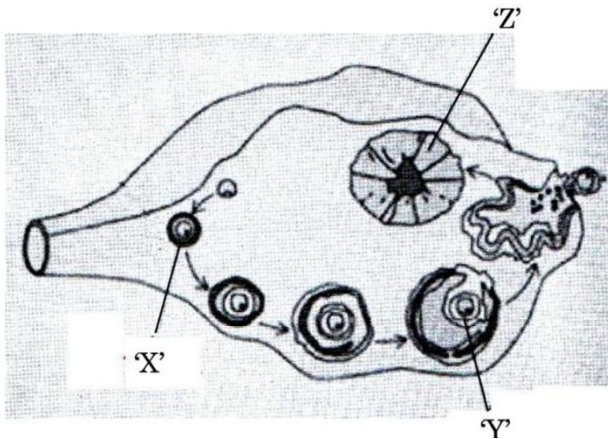
b.Name the group of flowering plants which use this agent.

C.Write two examples of aquatic plants where water is not a pollinating agent.

Q 21. State the main purpose of conducting '**Artificial Hybridization**' in plants? Explain the process in detail. What type of plant do not require this process?

Q 22. List five reasons to explain why Morgan choose to work with fruit flies; *Drosophila melanogaster*.

Q23 the diagram given below shows the event occurring in an ovary during oogenesis in a human female.



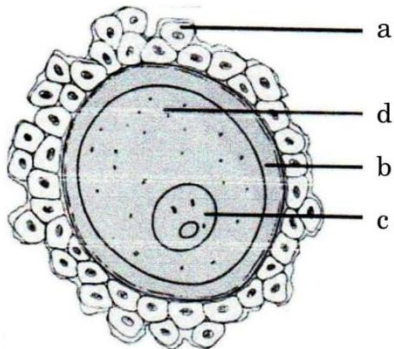
a. Identify X. Mention the time when the process occurs in a human female.

b. Identify Y. when and how it is formed?

c. Name the hormone produced by Z.

Q 24. You are given tall pea plant with green seed. The genotype of this plant is unknown. You are allowed to do only selfing of these plants to find out the genotype of the given plant. Workout all possible crosses and show how you would determine the genotype of the given plant.

Q 25. Given below is a diagrammatic representation of a human ovum.

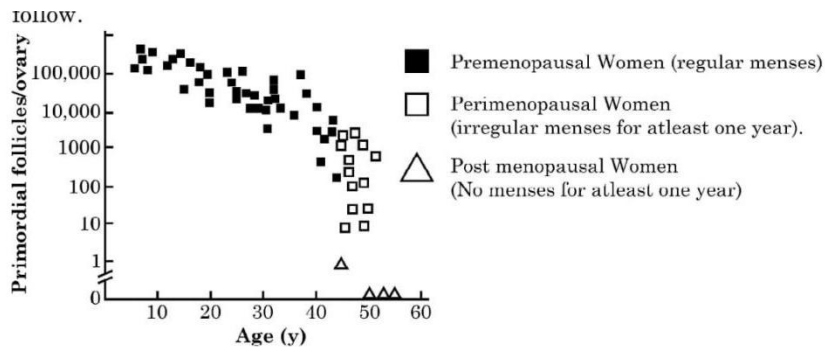


- a. Identify the parts **A, B and C**.
- b. This ovum is released from the ovary with incomplete meiotic division. When, where and how the meiotic division completed?

Q 26. Give a reason for the following:

- a. A seed of an orange has many embryos.
- b. Cashew is a false fruit but guava is a true fruit.

Q 27. The graph given below shows the number of primordial follicles per ovary in women at different ages. Study the graph and answer the questions that follows:



- a. What is the average age of the women at the onset of menopause?
- b. At what age are maximum primordial follicles present in the ovary, according to the given graph.

Q 28. Name and explain the technique that can be used in developing improved crop varieties in plants bearing female flowers only.

B. When are the non-flowering plants said to be homothallic and monoecious and heterothallic and dioecious? Give an example of each.

Q 29. Generally, it is observed that human male suffer from hemophilia more than human females, who rarely suffer from it. Explain giving reason.

Q 30. Draw schematic transverse section of a mature anther of an angiosperm. Label its epidermis, middle layer, endothecium, tapetum, sporogenous tissues and the connective.

Q 31. Explain with examples:

- a. Co-dominance
- b. incomplete dominance

Q 32. explain the sex determination:

- a. In honey bees
- b. In insects
- c. In birds

Q 33. Explain chromosomal disorders:

- a. Down syndrome
- b. Klinefelter's syndrome
- c. Turner's syndrome

Q 34. Explain: mendelian disorders:

- a. Sickle cell anemia
- b. Phenylketonuria

PM SHRI KENDRIYA VIDYALAYA MIAO

Holiday Homework for Computer Science

Class: XII

Subject Code: 083

Time Allowed: Flexible (Holiday Assignment)

Section A – Database Management

Q1. Answer the following questions:

- a) Define a **database**. Explain any two advantages of using a database system.
- b) Differentiate between: (i) Attribute and Tuple (ii) Degree and Cardinality.
- c) Explain the different types of **keys** in a relational database with examples.
- d) Differentiate between **DDL and DML commands** with examples.
- e) Explain the concept of **constraints** in SQL. Name any three types.

Q2. Write SQL commands for the following:

- a) Create a database named **SchoolDB**.
- b) Create table STUDENT (RollNo INT, Name VARCHAR(20), Marks FLOAT, Grade CHAR(1)).
- c) Add a new column Age to the STUDENT table.
- d) Remove the column Grade from the STUDENT table.
- e) Display the structure of the STUDENT table.

Q3. Write SQL queries based on the following table:

STUDENT (RollNo, Name, Marks, Age, City)

- a) Display all records.
- b) Display names with Marks > 75.
- c) Display records with Marks between 60 and 90.
- d) Display names from Delhi or Mumbai.
- e) Display records in descending order of Marks.

Q4. SQL Functions and Clauses:

- a) Explain DISTINCT clause.
- b) What is NULL? How is it different from 0?
- c) Explain LIKE operator with example.
- d) Explain GROUP BY clause.
- e) Differentiate WHERE and HAVING.

Q5. Case Study:

EMPLOYEE (EmpID, Name, Dept, Salary)

DEPARTMENT (DeptID, DeptName)

- a) Display employee details with department names using JOIN.
- b) Find average salary department-wise.
- c) Display departments with avg salary > 50000.
- d) Count employees in each department.
- e) Perform equi-join.

Q6. Case-Based Question:

EMPLOYEE (EmpID, Name, DeptID, Salary)

PROJECT (ProjID, ProjName, DeptID, Budget)

- a) Identify primary keys.
- b) Identify foreign key.
- c) Display employee names with project names.
- d) Display employees earning > 60000.

- e) Count employees department-wise.
- f) Display projects with budget between 100000 and 500000.

KENDRIYA VIDYALAYA, MIAO
HOLIDAY HOMEWORK (CHEMISTRY)
CLASS XII

Q1. Prepare a project on any one of the following-

A few suggested Projects

- a) Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- b) Study of quantity of casein present in different samples of milk
- c) Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- d) Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- e) Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- f) Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- g) Extraction of essential oils present in Saunf (aniseed). Aiwain (carom). Illaichi (cardamom)
- h) Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

Q2. Assertion: Cooking time is reduced in pressure cooker.

Reason: Boiling point of water increases inside pressure cooker.

Q3. Assertion: Henry's constant decreases with increase in temperature.

Reason: Solubility of gases decreases with increase in temperature.

Q4. Assertion (A): Addition of ethylene glycol to water lowers its freezing point.

Reason (R): Ethylene glycol is insoluble in water due to lack of hydrogen bonding.

Q5. (i) At the same temperature, CO_2 gas is more soluble in water than O_2 gas.
Which gas will have higher value of K_h and why?

(ii) How does the size of blood cells change when placed in an aqueous solution containing more than 0.9% sodium chloride?

(iii) A 1 molal aqueous solution of electrolyte A_2B_3 is 60% ionized.
Calculate boiling point of the solution.
(K_b for $\text{H}_2\text{O} = 0.52 \text{ K kg mol}^{-1}$)

Q6. a) Cooking is faster in pressure cooker than open pan.

(b) On mixing liquid X and liquid Y, volume decreases.

What type of deviation from Raoult's law is shown by the resulting solution?

What change in temperature would you observe after mixing liquids X and Y?

Q7. (i) How does sprinkling of salt help in clearing the snow-covered roads in hilly areas?

(i) What happens when red blood cells are kept in 0.5% (mass/vol) NaCl solution? Justify your answer.

(iii) Write an application of reverse osmosis.

PM SHRI KENDRIYA VIDYALAYA MIAO

Holiday Homework for Informatics Practices

Class: XII

Subject Code: 065

Time Allowed: Flexible (Holiday Assignment)

Section A – Database Query using SQL

Q1. Answer the following questions:

- a) Differentiate between **WHERE clause** and **HAVING clause** with suitable examples.
- b) Explain the use of **GROUP BY clause** in SQL with an example.
- c) What are **aggregate functions**? Name any four and explain any one.
- d) Differentiate between **ORDER BY ASC** and **ORDER BY DESC** with examples.
- e) Explain the concept of an **equi-join** with an example.

Q2. Write SQL queries based on the following table:

Table: EMPLOYEE (EmpID, Name, Salary, Dept, JoinDate)

- a) Display employee names in **uppercase and lowercase**.
- b) Display the **first 4 characters** of each employee name.
- c) Display the **length of each employee name**.
- d) Display the **current date** and extract the **year from JoinDate**.
- e) Display **salary raised to power 2** and **remainder when salary is divided by 1000**.

Q3. Case Study:

Two tables are given:

CUSTOMER (CustID, CustName, City)

ORDERS (OrderID, CustID, Amount)

- a) Display **customer name along with their order amount** using JOIN.
- b) Find the **total order amount for each customer**.
- c) Display customers whose **total order amount is greater than 50,000**.
- d) Count the **total number of orders**.
- e) Display **customer names in ascending order**.

Section B – Computer Networks

Q4. Answer the following questions:

- a) Define a **computer network**. State any two advantages.
- b) Differentiate between **LAN, MAN, and WAN**.
- c) Explain any two **network devices** with their functions.
- d) What is a **URL**? Explain its components.
- e) Differentiate between **static and dynamic web pages**.

Q5. Answer the following questions:

- a) Explain the following **network topologies** with suitable diagrams:
 - i) Star Topology
 - ii) Bus Topology
 - iii) Mesh Topology

- b) Describe the working of the **Internet and World Wide Web (WWW)**.
- c) Explain the role of **web browsers**, cookies, and plug-ins.

Q6. Case-Based Question:

A school named Bright Future School is planning to establish a computer network to connect its administrative block, computer lab, and library. The school aims to enable efficient communication,

resource sharing, and internet access.

- a) Identify the most suitable type of network (PAN/LAN/MAN/WAN) for the school. Justify your answer.
- b) Suggest the most appropriate network topology for this setup and give reasons.
- c) Name the device used to connect multiple computers within the network.
- d) Which device is used to connect the school network to the Internet? Explain its role.
- e) The school wants to host its own website. What is meant by web hosting?
- f) Students access the website using Chrome or Firefox. Identify the type of software and state its function.

PM SHRI KENDRIYA VIDYALAYA MIAO
HOLIDAY HOMEWORK FOR MATHEMATICS
CLASS: XII

Chapter 4 Determinants

Sr No	Question	QP Code
1	14. Let A be the area of a triangle having vertices (x_1, y_1), (x_2, y_2) and (x_3, y_3). Which of the following is correct ? (a) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = \pm A$ (b) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = \pm 2A$ (c) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = \pm \frac{A}{2}$ (d) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix}^2 = A^2$	65/3/3
2	2. If $A = 2$, where A is a 2×2 matrix, then $4A^{-1}$ equals : (a) 4 (b) 2 (c) 8 (d) $\frac{1}{32}$	65/1/1
3	3. Let A be a 3×3 matrix such that $\text{adj } A = 64$. Then A is equal to : (a) 8 only (b) -8 only (c) 64 (d) 8 or -8	65/1/1 65/1/2 65/1/3
4	16. If $\left \frac{A^{-1}}{2} \right = \frac{1}{k A }$, where A is a 3×3 matrix, then the value of k is : (a) $\frac{1}{8}$ (b) 8 (c) 2 (d) $\frac{1}{2}$	65/1/2
5	11. If $\begin{bmatrix} x & 2 \\ 3 & x-1 \end{bmatrix}$ is a singular matrix, then the product of all possible values of x is : (a) 6 (b) -6 (c) 0 (d) -7	65/1/3
6	3. If $\begin{bmatrix} 1 & 2 & 1 \\ 2 & 3 & 1 \\ 3 & a & 1 \end{bmatrix}$ is non-singular matrix and $a \in A$, then the set A is (A) $\mathbb{R}$ (B) $\{0\}$ (C) $\{4\}$ (D) $\mathbb{R} - \{4\}$	65/2/1 65/2/2 65/2/3

7	4. If $A = kA$, where A is a square matrix of order 2, then sum of all possible values of k is (A) 1 (B) -1 (C) 2 (D) 0	1	65/2/1 65/2/2 65/2/3
8	14. If (a, b), (c, d) and (e, f) are the vertices of ΔABC and Δ denotes the area of ΔABC, then $\begin{vmatrix} a & c & e \\ b & d & f \\ 1 & 1 & 1 \end{vmatrix}^2$ is equal to (A) $2\Delta^2$ (B) $4\Delta^2$ (C) 2Δ (D) 4Δ	1	65/2/1 65/2/2 65/2/3
9	1. If $A = \begin{bmatrix} 1 & 4 & x \\ z & 2 & y \\ -3 & -1 & 3 \end{bmatrix}$ is a symmetric matrix, then the value of $x + y + z$ is : (a) 10 (b) 6 (c) 8 (d) 0		65/3/1
10	2. If $A \cdot (\text{adj } A) = \begin{bmatrix} 3 & 0 & 0 \\ 0 & 3 & 0 \\ 0 & 0 & 3 \end{bmatrix}$, then the value of $A + \text{adj } A$ is equal to : (a) 12 (b) 9 (c) 3 (d) 27		65/2/3
11	5. Let A be the area of a triangle having vertices (x_1, y_1), (x_2, y_2) and (x_3, y_3). Which of the following is correct ? (a) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = \pm A$ (b) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = \pm 2A$ (c) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = \pm \frac{A}{2}$ (d) $\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix}^2 = A^2$		65/2/3
12	2. Let A be a skew-symmetric matrix of order 3. If $A = x$, then $(2023)^x$ is equal to : (a) 2023 (b) $\frac{1}{2023}$ (c) $(2023)^2$ (d) 1		65/3/2
13	16. If $A \cdot (\text{adj } A) = \begin{bmatrix} 3 & 0 & 0 \\ 0 & 3 & 0 \\ 0 & 0 & 3 \end{bmatrix}$, then the value of $A + \text{adj } A$ is equal to : (a) 12 (b) 9 (c) 3 (d) 27		65/3/2

14	5. The value of $\begin{vmatrix} x+y & y+z & z+x \\ z & x & y \\ 1 & 1 & 1 \end{vmatrix}$ is (a) 0 (b) 1 (c) $x + y + z$ (d) $2(x + y + z)$	65/4/1
15	2. If the area of a triangle with vertices (2, -6), (5, 4) and (k, 4) is 35 sq units, then k is (a) 12 (b) -2 (c) -12, -2 (d) 12, -2	65/4/3
16	5. If $\begin{vmatrix} \alpha & 3 & 4 \\ 1 & 2 & 1 \\ 1 & 4 & 1 \end{vmatrix} = 0$, then the value of α is (a) 1 (b) 2 (c) 3 (d) 4	65/5/1 65/5/3
17	5. The value of the determinant $\begin{vmatrix} 6 & 0 & -1 \\ 2 & 1 & 4 \\ 1 & 1 & 3 \end{vmatrix}$ is (a) 10 (b) 8 (c) 7 (d) -7	65/5/2
18	26. Using determinants, find the area of ΔPQR with vertices P(3, 1), Q(9, 3) and R(5, 7). Also, find the equation of line PQ using determinants.	65/5/2
19	26. Show that the determinant $\begin{vmatrix} x & \sin \theta & \cos \theta \\ -\sin \theta & -x & 1 \\ \cos \theta & 1 & x \end{vmatrix}$ is independent of θ.	65/5/3
20	33. (a) If $A = \begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 0 \\ 0 & -2 & 1 \end{bmatrix}$ and $B^{-1} = \begin{bmatrix} 3 & -1 & 1 \\ -15 & 6 & -5 \\ 5 & -2 & 2 \end{bmatrix}$, find $(AB)^{-1}$. OR (b) Solve the following system of equations by matrix method : $x + 2y + 3z = 6$ $2x - y + z = 2$ $3x + 2y - 2z = 3$	65/1/1 65/1/2 65/1/3

21	32. (a) If $A = \begin{bmatrix} -3 & -2 & -4 \\ 2 & 1 & 2 \\ 2 & 1 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 2 & 0 \\ -2 & -1 & -2 \\ 0 & -1 & 1 \end{bmatrix}$, then find AB and use it to solve the following system of equations : $\begin{aligned} x - 2y &= 3 \\ 2x - y - z &= 2 \\ -2y + z &= 3 \end{aligned}$ 5 OR (b) If $f(\alpha) = \begin{bmatrix} \cos \alpha & -\sin \alpha & 0 \\ \sin \alpha & \cos \alpha & 0 \\ 0 & 0 & 1 \end{bmatrix}$, prove that $f(\alpha) \cdot f(-\beta) = f(\alpha - \beta)$ 5	65/2/1 65/2/2 65/2/3
22	34. (a) If $A = \begin{bmatrix} 1 & 0 & 2 \\ 0 & 2 & 1 \\ 2 & 0 & 3 \end{bmatrix}$, then show that $A^3 - 6A^2 + 7A + 2I = O$. OR (b) If $A = \begin{bmatrix} 3 & 2 \\ 5 & -7 \end{bmatrix}$, then find A^{-1} and use it to solve the following system of equations : $3x + 5y = 11, \quad 2x - 7y = -3.$	65/3/1 65/3/2 65/3/3
23	32. Find the inverse of the matrix $A = \begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix}$. Using the inverse, A^{-1}, solve the system of linear equations $x - y + 2z = 1; \quad 2y - 3z = 1; \quad 3x - 2y + 4z = 3.$	65/4/1 65/4/2 65/4/3
24	37. Gautam buys 5 pens, 3 bags and 1 instrument box and pays a sum of ₹ 160. From the same shop, Vikram buys 2 pens, 1 bag and 3 instrument boxes and pays a sum of ₹ 190. Also Ankur buys 1 pen, 2 bags and 4 instrument boxes and pays a sum of ₹ 250. Based on the above information, answer the following questions : (I) Convert the given above situation into a matrix equation of the form $AX = B$. (II) Find A. (III) Find A^{-1}. OR (III) Determine $P = A^2 - 5A$.	65/5/1 65/5/2 65/5/3

Chapter 2 Inverse Trigonometric Functions

Sr No	Question	QP Code
1	2. $\sin \left[\frac{\pi}{3} + \sin^{-1} \left(\frac{1}{2} \right) \right]$ is equal to (a) 1 (b) $\frac{1}{2}$ (c) $\frac{1}{3}$ (d) $\frac{1}{4}$	65/5/1 65/5/2 65/5/3
2	6. If $f(x) = \cos x$, then $f \left(\frac{3\pi}{4} \right)$ is (a) 1 (b) -1 (c) $\frac{-1}{\sqrt{2}}$ (d) $\frac{1}{\sqrt{2}}$	65/5/3
3	19. Assertion (A) : The range of the function $f(x) = 2 \sin^{-1} x + \frac{3\pi}{2}$, where $x \in [-1, 1]$, is $\left[\frac{\pi}{2}, \frac{5\pi}{2} \right]$. Reason (R) : The range of the principal value branch of $\sin^{-1}(x)$ is $[0, \pi]$.	65/1/1
4	19. Assertion (A) : The range of the function $f(x) = 2 \sin^{-1} x + \frac{3\pi}{2}$, where $x \in [-1, 1]$, is $\left[\frac{\pi}{2}, \frac{5\pi}{2} \right]$. Reason (R) : The range of the principal value branch of $\sin^{-1}(x)$ is $[0, \pi]$.	65/1/3
5	19. Assertion (A) : Maximum value of $(\cos^{-1} x)^2$ is π^2. Reason (R) : Range of the principal value branch of $\cos^{-1} x$ is $\left[\frac{-\pi}{2}, \frac{\pi}{2} \right]$.	65/2/1 65/2/2 65/2/3
6	21. (a) Evaluate $\sin^{-1} \left(\sin \frac{3\pi}{4} \right) + \cos^{-1} (\cos \pi) + \tan^{-1} (1)$. OR (b) Draw the graph of $\cos^{-1} x$, where $x \in [-1, 0]$. Also, write its range.	65/2/1 65/2/2 65/2/3
7	19. Assertion (A) : Range of $[\sin^{-1} x + 2 \cos^{-1} x]$ is $[0, \pi]$. Reason (R) : Principal value branch of $\sin^{-1} x$ has range $\left[-\frac{\pi}{2}, \frac{\pi}{2} \right]$.	65/3/1

8	20. Assertion (A) : Range of $[\sin^{-1} x + 2 \cos^{-1} x]$ is $[0, \pi]$. Reason (R) : Principal value branch of $\sin^{-1} x$ has range $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$.	65/3/2 65/3/3
9	19. Assertion (A) : All trigonometric functions have their inverses over their respective domains. Reason (R) : The inverse of $\tan^{-1} x$ exists for some $x \in \mathbb{R}$.	65/4/1 65/4/2 65/4/3
10	(b) Evaluate : $\sin^{-1}\left(\sin \frac{3\pi}{4}\right) + \cos^{-1}\left(\cos \frac{3\pi}{4}\right) + \tan^{-1}(1)$	65/1/1 65/1/2 65/1/3
11	24. (a) Evaluate : $3 \sin^{-1}\left(\frac{1}{\sqrt{2}}\right) + 2 \cos^{-1}\left(\frac{\sqrt{3}}{2}\right) + \cos^{-1}(0)$ OR (b) Draw the graph of $f(x) = \sin^{-1} x$, $x \in \left[-\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}\right]$. Also, write range of $f(x)$.	65/3/1 65/3/2 65/3/3
12	21. (a) Find the domain of $y = \sin^{-1}(x^2 - 4)$. OR (b) Evaluate : $\cos^{-1}\left[\cos\left(-\frac{7\pi}{3}\right)\right]$	65/4/1 65/4/2 65/4/3
13	21. Write the domain and range (principle value branch) of the following functions : $f(x) = \tan^{-1} x$	65/5/1
14	21. Draw the graph of the principal branch of the function $f(x) = \cos^{-1} x$.	65/5/2
15	22. Find the value of $\tan^{-1}\left[2 \cos\left(2 \sin^{-1} \frac{1}{2}\right)\right] + \tan^{-1} 1$.	65/5/3

Holiday homework for Class 12 Hindi

1 संचार और जन- संचार में अंतर स्पष्ट कीजिए ।

2 जन संचार के माध्यमों का उल्लेख करते हुए उसके द्वारा मनुष्य के जीवन पर पड़ने वाले प्रभावों को बताइए।

3 अपनी पाठ्य पुस्तक आरोह से आलोक धनवा द्वारा रचित कविता 'पतंग' का भावार्थ लिखिए ।

Class – XII B**Subject – Economics**

1. Why did classical theory fail during Great Depression?
2. Explain the circular flow of income in a two – sector economy with the help of a diagram.
3. Explain leakages and injections in a circular flow of income.
4. Explain the problem of double counting and how it is avoided.
5. Explain the Income Method of calculating National Income along with its precautions.
6. Explain the components in measuring National Income estimation?
7. What are the challenges in measuring National Income?
8. Micro and Small-Scale Industries.
9. Contemporary employment situation in India.
10. Goods and Services Tax Act it's impact.
11. Disinvestment policy of the Government
12. Role of RBI in control of credit
13. Minimum Wage Rate — Approach and Application.

Class: XII-B**Subject: Business Studies**

Total case studies: 8

Assignment: Students are required to prepare case study-based answers from the completed chapters to improve their analytical and application skills. Students will solve:

- a) Two case study-based questions from chapter 1
- b) Two case study-based questions from chapter 2
- c) Two case study-based questions from chapter 3
- d) Two case study-based questions from chapter 4

Instructions:

- Students should select the case study questions from the prescribed reference book but the assignment must be completed in their own handwriting and solved independently.
- Write all answers neatly in a separate assignment notebook.
- Mention the chapter name before each case study.
- The completed assignment must be submitted after the summer vacation.

Class 10 Physics

Section A – Very Short Answer (1 × 8 = 8 marks)

1. Define principal focus of a concave mirror.
2. Write the relation between focal length and radius of curvature.
3. State the mirror formula.
4. Define magnification for mirrors.
5. What does negative magnification indicate?
6. Which type of mirror always forms virtual and erect images?
7. What is the nature of image formed when object is at centre of curvature of concave mirror?
8. Give one use of concave mirror.

Ray Diagrams (3 × 3 = 9 marks)

1. Draw ray diagram for concave mirror when object is placed:
 - (a) At centre of curvature
 - (b) Between focus and pole
2. Draw ray diagram for convex mirror showing image formation.
3. Draw ray diagram for concave mirror when object is placed beyond C.

Numericals (4 × 4 = 16 marks)

1. An object is placed at a distance of 30 cm from a concave mirror of focal length 15 cm.

Find image distance and nature of image.



2. A convex mirror has focal length 20 cm. An object is placed at 40 cm in front of it.

Find image distance and nature of image.



3. An image is formed at 10 cm behind the mirror when object is placed at 20 cm in front of mirror.

Find focal length of the mirror.

(b) Make a small report on following topic (roll number wise)

5 to 10 pages

include previous year question of assigned topic on A4 sheet file .

1. Reflection of light, Image formation by spherical mirrors.
2. Image formation by concave and convex mirror.
3. Refraction of light, Refraction through glass slab
4. Refraction by spherical lens & Sign convention.
5. Rules of image formation and Image formation by lens (concave and convex lens)
6. Lens formula and power of lens.

8. Defects of vision- Myopia, Hypermetropia presbyopia.
9. Refraction through prism, dispersion of white light by glass prism.
10. Atmospheric refraction twinkling of stars, advance sunrise & sunset.
11. Scattering of light – tyndell effect, blue colour of sky, colour of sun at sunrise & sunset.
12. Electric current and circuit, electric potential & potential difference.
13. Circuit diagram, ohm's law, factors on which resistance of a conductor depends.
14. Resistance of a system of resistors connected in series and parallel
15. Heating effect of electric current , its practical application, Electric power.
16. Magnetic field and field lines , magnetic field due to a current carrying Conductor
17. Magnetic field due to a current through a Straight conductor, Right hand thumb rule.
18. Magnetic field due to current through a circular loop and due to solenoid
19. Force on a current carrying conductor in a magnetic field, Fleming's left hand rule
20. Rules of image formation and Image formation by lens (concave and convex lens)
- 21.. Heating effect of electric current , its Practical application, Electric power.
22. Defects of vision- Myopia, Hypermetropia presbyopia.
23. Refraction through prism, dispersion of white light by glass prism.
24. Heating effect of electric current , its Practical application, Electric power.
25. COMBINATION OF RESISTANCE (SERIES AND PARALLEL)
26. Force on a current carrying conductor in a magnetic field, Fleming's left hand rule
27. Image formation by concave and convex mirror.
28. Image formation by lens and lens formula and 4 Rule of image formation in lens
29. Circuit diagram, ohm's law, factors on which resistance of a conductor depends.
30. COMBINATION OF RESISTANCE (SERIES AND PARALLEL)
31. Heating effect of electric current , its Practical application, Electric power.
32. COMBINATION OF RESISTANCE (SERIES AND PARALLEL)
33. Ohm's law , circuit diagram and resistance .

PM SHRI KENDRIYA VIDYALAYA MIAO
HOLIDAY HOMEWORK
X (MATHEMATICS)

 “This summer, explore, enjoy, and learn something new every day!”

 “Let your curiosity grow as bright as the summer sun.”

 **TASK: Observe → Create → Convert → Solve**

 Step 1: Choose a Real-Life Situation

👉 Observe any ONE:

A shop (stationery, grocery, clothes)

Buying two types of items

Area/space (room, park, ground)

Pricing, profit, or quantity

Do NOT copy—create your own situation

 Step 2: Create Your Own Problem

👉 Frame a situation like:

Two unknown quantities (x and y)

OR one unknown (x) forming a quadratic

 Step 3: Form Pair of Linear Equations

👉 From your situation:

Form two equations in x and y

Solve using: Substitution method and Elimination method

 Step 4: Solve Graphically

👉 Convert both equations into graph form

Plot on graph paper

Find point of intersection

📌 Write:

Whether solution is: Unique, No solution, Infinite solutions

 Step 5: Create a Quadratic Equation

👉 From SAME situation (or slightly modify it):

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Form a quadratic equation in one variable

 Step 6: Find Zeroes & Nature of Roots

👉 Solve using:

👉 Then write:

Zeroes of the polynomial

Nature of roots

 Step 7: Graph of Polynomial

👉 Draw graph of quadratic:

Identify zeroes from graph

Verify with algebraic answer

 Step 8: Reflection

Write 4–5 lines:

Was the graph matching your solution?

Which method was easiest?

Where did you face difficulty?

“Create 10 real-life based problems using situations around you (like shopping, travelling, etc.). Form equations, find zeroes, and solve them using graphical, elimination, and substitution methods.”

- **Do 15 -15 PYQ from Chapter 1-4 from 2025-26 CBSE Question Papers.**
- **Link for 2025-26 CBSE PAPERS** 📌

<https://drive.google.com/drive/folders/1Pvco0ejWA1PtRI4fXr2exV2j-NclOD0>