ग्रीष्मकालीन अवकाश गृहकार्य

कक्षा viii — विषय – संस्कृत

1. संस्कृत प्रतिज्ञा दो बार लिखे व याद करें ।
2. कोई 5 श्लोक लिखे व याद करें ।
3. 5 संस्कृत के सुविचार लिखे व कोई दो याद भी करें ।
4. अस्मद् – युष्मद् के शब्दरूप तथा खाद् के धातुरूप वर्तमान काल तथा भविष्य काल में लिखे व याद भी करें ।

MDP – 'पर्यावरण प्रदूषण' विषय पर 10 सरल वाक्य संस्कृत में लिखे।

नोट – अवकाश गृहकार्य तथा MDP प्रायोजना कार्य संस्कृत की कॉपी में ही करना है। अलग से कोई कॉपी या फाइल नहीं बनानी हैं।

कक्षा vii — विषय – संस्कृत

1. संस्कृत प्रतिज्ञा दो बार लिखे व याद करें ।
2. कोई 4 श्लोक लिखे व याद करें ।
3. 3 संस्कृत के सुविचार लिखे व कोई दो याद भी करें ।
4. 'पठ्' के धातुरूप वर्तमान तथा भविष्यकाल में लिखे व याद भी करें ।

MDP – ग्रीष्म , वर्षा अथवा शीत ऋतू पर कोई 4 श्लोक अथवा कविता संकलित करके लिखिए।

नोट – अवकाश गृहकार्य तथा MDP प्रायोजना कार्य संस्कृत की कॉपी में ही करना है। अलग से कोई कॉपी या फाइल नहीं बनानी हैं।

कक्षा vi — विषय – संस्कृत

1. संस्कृत प्रतिज्ञा का 2 बार सुलेख लिखे व वाचन अभ्यास करें ।
2. कोई 2 श्लोक लिखे व याद करें ।
3. 20 संस्कृत शब्द उनके हिन्दी अर्थ सहित लिखे ।
4. परिवार के सदस्यों के अथवा मित्रों के 10 नाम लिखकर उनका वर्ण विभाजन करें ।

MDP – 10 फलों तथा 10 सब्जियों के संस्कृत में नाम लिखिए तथा चित्र भी बनाए।

नोट – अवकाश गृहकार्य तथा MDP प्रायोजना कार्य संस्कृत की कॉपी में ही करना है। अलग से कोई कॉपी या फाइल नहीं बनानी हैं।

कक्षा vi — विषय – हिन्दी

1. हिन्दी प्रतिज्ञा दो बार लिखे व याद करें ।
2. 5 हिन्दी के सुविचार लिखे व याद भी करें ।
3. 2 कविताएं लिखे (पुस्तक के बाहर की) व कोई दो कविताएं याद भी करें ।
4. 'मेरा ग्रीष्म कालीन अवकाश' विषय पर 10 वाक्य लिखिए ।

MDP – 'फ़ास्ट फ़ूड के नुकसान तथा पौष्टिक आहार के फायदे' विषय पर एक लघु निबंध लिखे (चित्र सहित)।

नोट – अवकाश गृहकार्य तथा MDP प्रायोजना कार्य संस्कृत की कॉपी में ही करना है। अलग से कोई कॉपी या फाइल नहीं बनानी हैं।

निलेश शर्मा

5/2/5/26

PRINCIPAL

अवकाश गृहकार्य

कक्षा – 6B

विषय - हिन्दी

१. हिंदी प्रतिज्ञा दो बार लिखें व याद करें.

२. १० हिंदी के सुविचार लिखें व याद करें.

३. पुस्तक के बाहर की दो कविताएँ लिखें व याद भी करें.

४. " मेरा ग्रीष्म अवकाश" विषय पर दस वाक्य लिखिए.

५. MDP परियोजना कार्य - "फ़ास्ट फूड के नुकसान तथा पौष्टिक आहार के फायदे" विषय पर एक लघु निबंध लिखिए (चित्र सहित).

****

30/04/26

(PRINCIPAL)

PM SHRI KENDRIYA VIDYALAYA, SHAJAPUR
LIBRARY HOLIDAY HOMEWORK FOR SUMMER VACATION
SESSION: 2026-27

CLASS: VI - VIII

1. Read newspaper daily online/offline and learn 05 new words daily.
2. Collect 10 motivational quotes and write in your library notebook.
3. Write about your "Favorite Book" in library notebook.
4. Make a scrap book on the topic-"My favorite festival with pictures".

CLASS: IX

1. Read newspaper daily online/offline and learn 10 new words daily.
2. Make a Magazine containing –
   a) 2 Hindi and 2 English poem.
   b) 05 motivational quotes of famous personalities.
   c) 01 Hindi or English book review.
   d) Write one paragraph on "Save water, Save Earth"
   e) Write about your Favorite Author.
   f) Write about your favorite tourist destination with pictures.

Happy Holidays!

2/5/26

(PRINCIPAL)

****

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

SUMMER BREAK HOLIDAY HOMEWORK + MDP PROJECT

SUBJECT - ENGLISH

Class – 6 (A+B)

Q.1 Write a paragraph on My Favourite Holiday Memory(100 words).

Q2. Make a poster on save water, save life.

(MDP)

Q1. Draw your dream house and write its description.

Class - 7(A+B)

Q1. Write a paragraph on how I spent My summer vacation.(150 Words)

Q2. Write a story using these words -

Forest, Bird, Rain, Child.

(MDP)

Q1. Make a cobweb (refer page no. 27 of English textbook).

Q2. *Why India is called the land of festivals? Draw and write about different festivals celebrated in India.*

NOTE- Complete these questions in your English notebook.

30/4/26

Signature

Subject teacher

(Meenakshi)

Signature

Principal

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR(M.P.)
SUMMER BREAK HOLIDAY HOMEWORK (2026-27)
CLASS- 8
SUBJECT - ENGLISH

1. Write a narrative essay based on the topic given below (Any one topic) (refer to page no 15 of English Textbook)
   A. The Day I Learnt the Value of Teamwork.
   B. A small Act of Kindness that made a Difference.

2. Limericks are poems in five lines that have a twist in the last line. Read and enjoy the following limericks and create one on your own. Refer to page no16 (let us explore - I) of English Textbook

Raju flew his kite in the sky so wide,
It soared with grace, full of pride.
But a crow came along,
Singing its song,
And now it's the crow on a joyride!

3. A. Letter to the Principal - Requesting a 3-day leave for sister's wedding.

4.Write a factual description on the following topics in 100 words (use hints):

Sachin Tendulkar
-Sachin Ramesh Tendulkar
-Born 24 April 1973 , Place of Birth – Mumbai, Maharashtra, India
-Nickname – Master Blaster, Little Master
-International Debut –
Test & ODI 1989 vs Pakistan
-Right-handed batsman, Right-arm medium, leg break
Major Achievements –
– First cricketer to score 100 international centuries
– First player to score a double century in ODI cricket
– Over 34,000 international runs
Awards –
– Bharat Ratna (2014) , Padma Vibhushan , Padma Shri
Retirement – 2013 (International Cricket)
Contribution – Considered one of the greatest batsmen in cricket history and inspired many young cricketers.

5.(MDP)write definition and example of poetic devices
   A. Simile
   B. Personification
   C. Alliteration
   D. Metaphor
6. Read poem -A concrete Example- refer to page no 17 of English Textbook

30/4/26
Subject teacher's signature
(Meenakshi)

30/4/26
Principal's signature

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

SUMMER BREAK HOLIDAY HOMEWORK + MDP PROJECT

SUBJECT - MATHEMATICS

Class – 6 (A+B)

Q.1 Explore patterns in our surroundings. (draw any five)

Q.2 Use matchsticks / straws to make-

(A) Acute angle

(B) Right angle

(C) Obtuse angle

(D) Straight angle

Class - 7 (A+B)

Q.1 Write the place value of the following numbers:-

(a) 96465789

(b) 79520365

Q.2

We can write digits as shown in the image below:

You can either use toothpick or matchsticks to write the digits in this way. Make the number 42019. How many sticks are required ?

Class - 8 (A+B)

Q.1 How are squares and cubes useful in daily life ?

Q.2 Simplify :-

(a) $2^6 \times 2^2$

(b) $5^3 \times 5^2$

(c) $(2^3 \times 2^5) \div 2^4$

(d) $(10^2 \div 5^4)$

(e) 2.65×10^{-3}

NOTE- Complete these questions in your Maths notebook.

Signature

Subject teacher

① Umesh Sir

② Apurva Asthana

Signature 30/4/26

Principal

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR
SUMMER BREAK HOLIDAY HOMEWORK
CLASS: VIII (A+B)

Section A: Multiple Choice Questions (MCQs)

1. The square of 15 is:
   a) 225
   b) 30
   c) 215
   d) 45
2. The cube of 7 is:
   a) 49
   b) 343
   c) 21
   d) 147
3. Which of the following is a perfect square?
   a) 48
   b) 64
   c) 72
   d) 96
4. Which of the following is a perfect cube?
   a) 125
   b) 150
   c) 175
   d) 200

Section B: Fill in the Blanks

1. The square of 12 is _____.
2. The cube of 5 is _____.
3. The smallest perfect square is _____.
4. The smallest perfect cube is _____.

Section C: Short Answer Questions

1. Find the square of 23.
2. Find the cube of 11.
3. Check whether 729 is a perfect square or not.
4. Write the first five perfect cubes.

Section D: Long Answer Questions

1. Find the square of 3-digit number 104 using identity method. $(a+b)^2 = a^2 + 2ab + b^2$
2. Find the cube root of 3375 using short method.

Chapter 2: Power Play

Section A: Multiple Choice Questions (MCQs)

1. $(2^3 = ?)$
   a) 6
   b) 8
   c) 9
   d) 12
2. $(5^0 = ?)$
   a) 0
   b) 1
   c) 5
   d) Not defined

Section B: Fill in the Blanks

1. $(3^4 =$ _____)
2. $(7^2 =$ _____)
3. Any number raised to power 0 is _____.
4. (1^n = _____) for any number n.

Section C: Short Answer Questions

1. Write 125 in exponential form.
2. Expand (4^3).
3. Simplify: (2^3 times 2^2).
4. Simplify: $(5^4 \div 5^2)$.

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

SUMMER BREAK HOLIDAY HOMEWORK

CLASS: VII (A+B)

1. 5 million is equal to how many lakhs?

(a) 500 lakh (b) 5 lakh (c) 50 lakh (d) 25 lakh

2. Which of the following is correctly expressed in International system?

(a) 75,00,000 (b) 7,500,000 (c) 750,00,00 (d) 7,50,00,000

3. 1,23,45,678 is read in Indian system as:

(a) 1 crore 23 lakh 45 thousand 678 (b) 12 crore 34 lakh 56 thousand 78

(c) 1 crore 2 lakh 3 thousand 4 hundred (d) 123 million 456 thousand 78

4. In International system, commas are placed after every:

(a) 2 digits (b) 4 digits (c) 3 digits (d) 5 digits

5. A football stadium can seat approximately 68,000 people. The nearest thousand is:

(a) 60,000 (b) 68,000 (c) 70,000 (d) 1,00,000

6. Write the following numbers in words using Indian system and International system-

a) 45689235
b) 89561237
c) 15694685
d) 5655639
e) 5576656
f) 45637856

7. Estimate the no. Given below by rounding each to nearest lakh, ten thousand, thousand, hundred -

a) 4569824
b) 45635863
c) 5456685
d) 7899256
e) 5446163
f) 5655652

8. The population of City A is 37,45,280 and City B is 1,02,95,800. A new survey predicts that the population of City A will increase by 8,45,000 in the next 5 years, and City B's population will rise by 5,00,000 in the same period.

(a) Estimate and find the future population of both cities.

(b) Compare their future populations using <, >, or =.

(c) Round off the future population of both cities to the nearest lakh

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

SUMMER BREAK HOLIDAY HOMEWORK

CLASS: VI (A+B)

(i) What sequence do we get when we start adding up odd numbers?
(a) Cubes
(b) Squares
(c) Triangular numbers
(d) Even numbers
(ii) The sequence 1, 7, 19, 37,.... is called as
(a) cubes
(b) squares
(c) triangular numbers
(d) hexagonal numbers
(iii) The terms in the number sequence 38, 34, 30, 26, are generated by:
(a) adding 4 to the next term
(b) multiplying by 4 to get the next term
(c) subtracting 4 to get the next term
(d) dividing by 4 to get the next term

A. Students of Winkee Wee school visit a plants nursery with their class teachers. In the nursery, they see that the plants are kept in rows where the number of plants in each row follows a pattern.

Based on the above information, answer the following questions.
(i) There are 3 plants in the first row, in the second row 6 and 9 plants in the third row. If the same pattern is followed, how many plants will be in the ninth row?
(a) 18
(b) 27
(c) 36
(d) 9

(ii) How many total plants would be there in the 25th row?
(a) 50
(b) 65
(c) 75
(d) 100

B. Bob, the builder is building a museum made of glass. He starts the construction by placing 1 glass block in the first row, 4 glass blocks in the second row, 9 glass blocks in the third row and so on.

Based on the above information, answer the following questions.
(i) If Bob continues the same pattern, then how many glass blocks will be in the 7th row?
(a) 18
(b) 27
(c) 36
(d) 49

(ii) How many glass blocks are needed to construct the 9th row?
(a) 64
(b) 81
(c) 100
(d) 121

SUMMER VACATION HOMEWORK
CLASS- 8
SUBJECT - ENGLISH

1. Write a narrative essay based on topic below (Any one topic) (refer to page no 15)
   A. The Day I Learnt the Value of Teamwork
   B. A small Act of Kindness that made a Difference.
2. Limericks are poems in five lines that have a twist in the last line. Read and enjoy the following limericks and create one on your own. Refer to page no16 (let us explore - I)

Raju flew his kite in the sky so wide,
It soared with grace, full of pride.
But a crow came along,
Singing its song,
And now it's the crow on a joyride!

3. A. Letter to the Principal - Requesting a 3-day leave for a sister's wedding.

4. Write a factual description on the following topics in 100 words (use hints):

Sachin Tendulkar
-Sachin Ramesh Tendulkar
-Born 24 April 1973 , Place of Birth – Mumbai, Maharashtra, India
-Nickname – Master Blaster, Little Master
-International Debut –
Test & ODI 1989 vs Pakistan
-Right-handed batsman, Right-arm medium, leg break
Major Achievements –
– First cricketer to score 100 international centuries
– First player to score a double century in ODI cricket
– Over 34,000 international runs
Awards –
– Bharat Ratna (2014) , Padma Vibhushan , Padma Shri
Retirement – 2013 (International Cricket)
Contribution – Considered one of the greatest batsmen in cricket history and inspired many young cricketers.

5. (MDP)write defination and example of poetic devices
   A. Simile
   B. Personification
   C. Alliteration
   D. Metaphor
6. Read poem -A concrete Example- refer to page no 17

Bhumika 30/4/26

30/4/26

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

Holiday Homework (Summer Vacation) (Class 9&10)

Sub.:ENGLISH

1. Read story books, newspapers, or magazines (Maintain brief Summary/book review in simple language) and maintain Vocabulary of difficult words (including the meaning of the words)

2. Practice and prepare a short note on Tenses, Reported Speech, Modals, Sub-Verb Agreement and Determiners.

3. Write short stories, paragraphs or daily diary of your own choice.

4. Picture based composition-Making small handmade books with writing poems or dialogues.

5. Practice and prepare all four types of Formal letters.

Subject Teacher

Saheb Lal
30-04-2026

Principal

Dr. Sandhya S. Tarafdar

ग्रीष्मकालीन अवकाश गृह कार्य
कक्षा 8 वीं
विषय - हिन्दी

1. प्रतिदिन हिन्दी पाठ्यपुस्तक के 3-4 पृष्ठ पढ़ें - ध्यान दें!
शुद्ध उच्चारण
प्रवाह
अर्थ समझना
मुख्य भाव या विचार पहचानना

2. पठन के बाद लेखन -
(i) पढ़े गए पाठों का 8-10 पंक्तियों में सारांश लिखें।
(ii) पढ़े गए पाठों से कठिन शब्द छाँटकर उनका अर्थ लिखकर वाक्य में प्रयोग करें
(iii) पढ़े गए पाठों में आए मुहावरों को छाँटकर इनका अर्थ लिखकर वाक्य में प्रयोग करें।

3. "मेरा यादगार अनुभव" विषय पर 100 शब्दों में अनुच्छेद लिखिए।

4. विद्यालय पुस्तकालय में 'बाल साहित्य' की नई पुस्तकें मँगवाने हेतु प्राचार्य को पत्र लिखिए।

5. "पानी की बर्बादी रोकना" विषय पर दो मित्रों के बीच संवाद लिखिए।

6. "पर्यावरण सुरक्षा" विषय पर बहुविषयक परियोजना कार्य तैयार कीजिए।

02.05.2026

प्राचार्या

DOMS | Page No.
Date / /

ग्रीष्मकालीन अवकाश गृहकार्य

कक्षा 7वीं, विषय - हिन्दी

1. शब्दार्थ- पाठ 1 से 3 तक के पाठों को पढ़कर उनमें आए कठिन शब्दों की सूची बनाकर उनका अर्थ लिखें एवं उनका वाक्य में प्रयोग करें।

2. अपने छोटे भाई/बहन को 'समय का सदुपयोग' समझाते हुए पत्र लिखिए। (100 शब्द)

3. "मोबाइल फोन: लाभ या हानि" माँ और बेटी/बेटा के बीच 10 पंक्तियों का संवाद लिखिए।

4. पाठ 1 से 3 तक के पाठों को पढ़कर उनमें आए मुहावरों को छाँटकर उनके अर्थ लिखें एवं वाक्यों में प्रयोग करें।

5. "जल ही जीवन है" विषय पर बहुविषयक परियोजना कार्य तैयार कीजिए।

02.05.2026

प्राचार्या

M SHRI KENDRIYA VIDYALAYA SHAJAPUR

CLASS 6 – SOCIAL SCIENCE

SUMMER VACATION HOLIDAY HOMEWORK

(MDP – PROJECT WORK)

GENERAL INSTRUCTIONS:

- **Do all the work in your Social Science notebook.**
- **Write in neat and clean handwriting.**
- **Use colours and make your work attractive.**

Q1. Compare early humans and modern humans.

Instructions:

- Make a table with two columns: Early Humans and Modern Humans.
- Write at least 3 differences (food, shelter, tools, lifestyle).
- Draw one small picture in each column.

Q2. Observe your surroundings and list different types of workers in your area (such as teacher, farmer, shopkeeper, etc.).

Instructions:

- Write names of any 5 workers.
- Mention one work done by each.
- Write 2–3 sentences on why all types of work are important.

02/04/26

SUBJECT TEACHER

Deepak Yadav

PRINCIPAL

Dr. SANDHYA S. TARAFDA

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

SUMMER BREAK HOLIDAY HOMEWORK + MDP PROJECT

SUBJECT - SCIENCE

Class – 6 (A+B)

Q.1 What is venation in leaves? Name and explain its two main types with one example each. Paste some leaves of each type.

Q.2 What is meant by diversity in animals?

Make diagram of

1. Desert animal
2. Aquatic animal
3. Wild animal
4. Pet animal

Class – 7 (A+B)

Q. 1 What are acids, bases, and neutral substances? Give two examples of each.

Q. 2 Explain how you can test whether a substance is acidic, basic, or neutral using litmus paper. Write some example of Neutralisation in daily life

Class - 8 (A+B)

Q.1 What are microorganisms? Name any four types of microorganisms and give one example of each and make their diagram.

Q.2 What is the difference between a plant cell and an animal cell? Make labeled diagram of plant and animal cell.

Class – 9 (A+B)

Q. 1 Make diagram of Bacterial cell, Plant cell and Animal cell. Write difference between them.

Q. 2 Write about different cell organelles of Eukaryotic cell and write their functions with diagram.

NOTE- Complete these questions in your science notebook.

30/4/26

Signature

Principal

Signatutre

Subject teacher

Lokesh Gupta

Sarvesh

RP Meena

Vinita Malviya

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

HOLIDAY HOMEWORK Subject: Mathematics CLASS-IX

1. Ensure your work is clean, legible, and submitted on or before the last date of holidays.
2. Solve all the questions in your homework notebook..Use graph paper for all coordinate geometry questions.

Q1. Ravi has Rs. 3/4 of his pocket money left. He spends Rs. 1/6 of it on a pencil. What fraction of his original pocket money does he have left now?

Q2. The temperature in Shimla was −7/2 °C in the morning and rose by 5/4 °C by noon. What was the temperature at noon?

Q3. A shopkeeper gained Rs. 5/8 per kilogram on apples and lost Rs. 3/16 per kilogram on oranges. What was the net gain or loss per kilogram overall?

Q4. Add the following rational numbers and simplify: 8/15 + 7/20 + (−11/35) + 1/5.

Q5. Subtract −5/12 from 7/8 and express the result in its simplest form.

Q6. Meena ate 2/5 of a pizza and Sonu ate 3/7 of the same pizza. Who ate more? How much pizza was eaten altogether?

Q7. A recipe needs 3/4 cup of milk. If you are making 2/3 of the full recipe, how much milk do you need?

Q8. Verify the commutative property of addition for x = −2/5 and y = −9/10.

Q9. Verify the distributive property x × (y + z) = x × y + x × z for x = −2/3, y = −4/6 and z = −7/9.

Q10. Using distributivity, find the value of: (7/5 × 3/12) + (7/5 × 5/12).

★ **Activity:** Draw a number line from −3 to 3 and mark the following rational numbers on it: −3/2, 1/4, −5/4, 7/4, 0, −1/2. Label each point clearly.

Q11. A train covers 5/9 of a journey in the morning and 7/18 in the afternoon. What fraction of the journey is still remaining?

Q12. Find the value of: (−5/9 × 72/−125) − (11/17 × 34/55) + (28/−13 × −52/21).

Q13. Arrange the following rational numbers in ascending order: −3/7, 5/−14, −7/12.

Q14. What number should be subtracted from −7/8 so that the result is 5/12?

Q15. A group of friends shared Rs. 5/8 of a prize money equally among 5 people. What fraction of the total prize did each person get?

Q16. Find two rational numbers between −1/4 and −2/5.

Q17. Find six rational numbers between 1/3 and 4/5.

Q18. By what number should 22/7 be divided to get −11/24?

Q19. A tank is 5/8 full. After 1/4 of the water is used, how full is the tank now?

Q20. The product of two rational numbers is −28/81. If one of the numbers is −2/3, find the other.

Q21. Simplify: 3/7 + (−6/11) + (−8/21) + 5/22.

Q22. If you subtract 1/8 from a number and multiply the result by 1/4, you get 1/16. What is the original number?

Q23. 5/8 of the total number of teachers in a school come by bus, and 1/8 come by two-wheeler. Of the remaining teachers who walk, 1/4 walk entirely on their own. If 78 teachers walk on their own, find the total number of teachers in the school.

Q24. Write the additive inverse and multiplicative inverse (reciprocal) of each: (a) −7/19 (b) 21/112 (c) 1.

Q25. A bird's Albatross wingspan is 18/5 m and a Sea Gull's wingspan is 77/10 m. A Golden Eagle's wingspan is 5/2 m and a Blue Jay's wingspan is 41/100 m. (a) How much longer is the Albatross's wingspan than the Sea Gull's? (b) How much longer is the Golden Eagle's wingspan than the Blue Jay's?

COORDINATE GEOMETRY

Q1. A city map uses a coordinate grid. The library is at (3, 5) and the park is at (−2, 5). In which quadrant(s) do these points lie? Are they on the same horizontal line?

Q2. Plot the following points on the Cartesian plane and name the quadrant or axis each lies on: A(3, 2), B(−4, 4), C(2, −3), D(−2, −3), E(0, 5), F(−3, 0).

Q3. A drone starts at the origin and flies 4 units to the right and 6 units up. Write its coordinates. Then it moves 7 units to the left. Write its new coordinates.

Q4. The coordinates of four friends sitting in a classroom are: Priya (2, 3), Ritu (−3, 1), Sam (4, −2) and Dev (−1, −4). Identify the quadrant each friend is in.

Q5. Find the perpendicular distance of each point from the x-axis and the y-axis: P(5, −3), Q(−4, 7), R(0, −6), S(8, 0).

Q6. A rectangular football field has corners at A(2, 1), B(8, 1), C(8, 5) and D(2, 5). Plot these points on graph paper, join them and find the length and breadth of the field (in units).

Q7. The ordinate of a point is twice its abscissa. If the abscissa is 3, write the coordinates of the point and state the quadrant it lies in.

Q8. On a treasure map, the treasure is buried at a point 5 units to the left of the y-axis and 3 units below the x-axis. Write the coordinates of the treasure and name its quadrant.

Q9. P(3, 2) and Q(7, 2) are two points. Draw perpendiculars from P and Q to the x-axis meeting it at L and M respectively. Find the coordinates of L and M. Also find LM.

Q10. State whether the following statements are True or False. Give reasons: (a) The point (−3, 0) lies on the y-axis. (b) A point with a positive abscissa and negative ordinate lies in Quadrant IV. (c) The point (0, 0) lies in Quadrant I.

★ **Activity:** On a sheet of graph paper, draw a Cartesian plane and plot at least 8 points — two in each quadrant. Label each point with its coordinates. Then connect them to form a closed shape and name the shape you get.

Q11. The base BC of an equilateral triangle ABC lies on the x-axis with B(−3, 0) and C(3, 0). Point A lies on the y-axis. Using the Pythagorean theorem, find the coordinates of A and the area of the triangle.

Q12. A school garden is mapped on a grid. The gardener plants roses at (2, 4), sunflowers at (−3, 4) and tulips at (2, −1). Find the distance between the rose and sunflower beds, and between the rose and tulip beds.

Q13. Write the coordinates of a point that lies: (i) On the x-axis with x-coordinate −5. (ii) On the y-axis with y-coordinate 7. (iii) At the origin. (iv) In Quadrant III with abscissa −4 and ordinate −6.

Q14. A game is played on a grid. Player 1 is at (4, 3) and Player 2 is at (−4, 3). (a) In which quadrants are they? (b) What is the distance between them along the horizontal direction?

Q15. If P(−5, 3) and Q(8, −9) are two points, find: (a) The abscissa of Q minus the abscissa of P. (b) The ordinate of P minus the ordinate of Q.

Q16. On a coordinate plane, a rectangle IJOH has vertices at I(−3, 3), J(0, 3), O(0, 0), H(−3, 0). Find its area and perimeter.

Q17. Points A(6, 0), B(6, 0) are on the x-axis and points K(0, 4) and L(3, 4) are in Quadrant I. Using the Pythagorean theorem, find the distance BL if the coordinates of B and L are B(6, 0) and L(3, 4).

Q18. A student walks from her home at (0, 0) to school at (5, 0), then to a park at (5, 4). Plot these points on a graph and find the total distance she walked.

Q19. In which quadrant will the following points lie? (i) Ordinate = 2, Abscissa = −3 (ii) Abscissa = −4, Ordinate = −2 (iii) Ordinate = −3, Abscissa = 4 (iv) Ordinate = 3, Abscissa = −2

Q20. During a science experiment, the temperature of a substance (in °C) is recorded at different positions along a rod. The readings at positions (−3, −4), (0, 2), (3, 5), (−2, 0) are noted. Plot these on a grid and identify the quadrant or axis of each.

Q21. A point A is chosen on the y-axis such that the triangle formed by A, B(−3, 0) and C(3, 0) is equilateral. Find the coordinates of A without using a calculator (express in surd form).

Q22. During 'Diwali Mela', four air-purifier machines are placed at L(4, 7), M(8, 7), N(12, 3) and O(8, 2) on a coordinate grid (with corner A as origin). Find the distance LN using the Pythagorean theorem.

Q23. The midpoint of a line segment joining two points P(x, 0) and Q(0, y) lies at (3, 4). Find the values of x and y.

Q24. List all points from the set {(2, −1), (6, −5), (−3, −2), (0, 4), (−1, 7)} that lie in each quadrant and on each axis.

Q25. A ship starts at the origin of a coordinate grid. It sails 6 units East (positive x direction), then 8 units North (positive y direction). (a) Write the final coordinates. (b) How far is the ship from its starting point? (Use the Pythagorean theorem.) (c) In which quadrant is the ship?

Final Project / Activity

My Neighbourhood on a Coordinate Plane

Task: Draw a neat Cartesian plane on a large sheet of graph paper. Place your home at the origin (0, 0). Mark at least 6 important locations from your neighbourhood (school, park, shop, hospital, etc.) as points on the grid. For each location:

1. Write its coordinates.
2. State the quadrant or axis it lies on.
3. Calculate its distance from your home (origin) using the Pythagorean theorem.
4. Express any one distance as a rational number (in km, using a scale of your choice).

Present your map neatly with a title, legend and scale. Be creative!

(Kirti Maltare)
SUB. TEACHER

2/5/26
PRINCIPAL

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

HOLIDAY HOME WORK CLASS-10 SUBJECT- MATHS

A-Solve monthly test(April) question paper.

CHAPTER-1(REAL NUMBERS)

Q.1 Classify the following numbers in composite and prime: 19, 58, 46, 37, 101, 61, 97, 88, 11, 47, 99, 147, 69.

Q.2 Check the numbers 8910 and 10500 are divisible by 2, 3, 5, 7 and 11 without division.

Q.3 Which is the composite number:

(a)41 (b) 67 (c) 51 (d) 29

Q.4 if LCM(x , 24) = 360 and HCF(24 , x) = 12, then find x.

Q.5 Express of the following numbers as a product of its prime factors:

(i) 945 (ii) 204 (iii) 660 (iv) 99792

Q.6. HCF of 72 and 120 :

(a)72 (b) 24 (c) 120 (d) 60 (CBSE 2023)

Q.7 Find LCM and HCF of 26, 65 and 117. (CBSE 2023)

Q.8.Two positive integers a and b can be written as $a = x^3y2$ and $b = xy^3$. If x and y are prime numbers, then find LCM and HCF of (a,b). (CBSE 2019)

Q.9 If the LCM of 26 and 91 is 182, then find their HCF.

Q.10 If n is a natural number, then 12^n cannot end with digit zero.(CBSE 2024)

Q.11. If n is a natural number, then 8^n cannot end with digit zero.(CBSE 2023)

Q.12. Explain why 2 x 3 x 4 x 5 x 6 + 4 is composite number.(CBSE 2023)

Q.13.Explain why 7 x 11 x 13 + 5 is composite number.(CBSE 2022)

Q.14. Prove that √3, √5, √7, √11 are irrational numbers.(CBSE 2019, 20, 21, 22, 23, 24)

Q.15. Prove that 2 + √3 is an irrational number.(CBSE 2019, 20, 21, 22, 23, 24)

Q.16. Prove that 6 - 2√5 is an irrational number.

Q.17. Prove that √5 + √3 is an irrational number.(CBSE 2019, 20, 21, 22, 23, 24)

Q.18. In a school, the strength of the students in three sections A, B, and C of class 10 are 48, 42 and 60 respectively. Find the least number of books required to be distributed equally among the students of section A, B and C.

Q19 .Three sets of physics, chemistry and mathematics books have to be stacked in such a way that all the books are stored topic-wise and height of each stack is the same. The number of physics, chemistry and mathematics books are 260, 364 and 416 respectively. Assuming that the books are of same thickness, determine the number of stacks of physics, chemistry and mathematics books.

Q20. An electronic device makes a beep after every 60 seconds. Another device makes a beep after every 62 seconds. They beeped together at 10 : 00 AM. At what time will they beep together at the earliest?

CHAPTER-2 POLYNOMIALS WORKSHEET

Q1: Write the five examples of polynomial.

Q2: Write the five examples of linear polynomial.

Q3: Write the five examples of quadratic polynomial.

Q4: Write the five examples of cubic polynomial.

Q5: Which are polynomial and which are not and why of the following:

(1) $5x - 3$. (ii) $2y^2 - 3y + 4$. (ii) $1/(x - 1)$. (iv) $5t^3 - 4t^2 + t - \sqrt{2}$ (v) $\sqrt{x} + 2$. (vi) $7y^6 - 3/2\ y^4 + 4y^2 + y - 8$. (vii) 9, (viii) $6x^5 + 3x^3 - 4$

Q6. For what value of k, 3 is a zero of the polynomial $2x^2 + x + k$?

Q7 Find the zeroes of the polynomial $x^2 + 4x - 12$

Q8. Draw the graph of the following:

(i) $f(x) = x + 5$. (ii) $f(x) = 2x^2 + 3$

Q9 Find the zeroes of the quadratic polynomial and verify the relationship between the zeroes and the coefficients of the polynomial: (1) $5x^2 - 8x - 4$. (ii) $x^2 - 20x + 91$. (iii) $x^2 - 7$ (iv) $3x^2 - 15x$. (v) $2x^2 - x - 6$

Q10. Find quadratic polynomial whose zeroes are 6 and -3

Q11. Find quadratic polynomial, the sum and the product of whose zeroes are respectively:

(i) 2 and -3, (ii) 3/2 and - 1/2 (ii)) 0 and $-\sqrt{2}$, (iv) 2/3 and - 1/5

Q12. If α and β are the zeroes of the polynomial $f(x) = 5x^2 - 7x + 1$ then find the value of (i) $1/\alpha + 1/\beta$ (ii)$\alpha/\beta + \beta/\alpha$ (iii)$\alpha^2+\beta^2$

Q13 If α and ß are the zeroes of the polynomial $f(x) = x^2 - 7x + k$ are such that $\alpha - \beta = 1$ then find the value of k.

Q14 If α and ß are the zeroes of the polynomial $f(x) = 2x^2 + 7x + 5$ then find the value of $\alpha + \beta + \alpha\beta$

Q15. If αand ß are the zeroes of the polynomial $f(x) = 3x^2 - 5x - 2$ then find the value of $\alpha^2 + \beta^2$

Q16. If α and ß are the zeroes of the polynomial $f(x) = 2x^2 - 7x + 5$ then find the value of $\alpha^3 + \beta^3$

Q17. If one zero of the polynomial $kx^2 + 3x + k$ is 2, then the value of k is:

(a) - 6/5. (b) 6/5. (c) 5/6. (d) - 5/6

Q18. The zeroes of the quadratic polynomial $16x^2 - 9$ are:

(a) ¾ ,¾ (b) - ¾ , ¾ (c) 9/16,9/16 (d) - ¾, - ¾

Q19. If one zero of the polynomial $3x^2 + 8x + k$ is the reciprocal of the other, then the value of k is:

(a) 3 (b) -3 (c) 1/3 (d) - 1/3

Q20 Find a quadratic polynomial whose zeroes are $5 + \sqrt{2}$ and $5 - \sqrt{2}$.

Q21If one zero of the quadratic polynomial $2x^2 + px + 4$ is 2, find the other zero. Also, find the value of p.

,nd the value of k for which system of equation $2x + 3y = 5$ and $4x + ky = 10$ has nfinite number of solutions.

2. Check the consistency of the pair of linear equations $2x + 3y = 5$ and $4x + 6y = 10$.

3. Find the number of solutions of the pair of equations $x + 2y + 5 = 0$ and $-3x - 6y + 1 = 0$.

4. Given the linear equation $3x + 4y - 8 = 0$, write another linear equation in two variables such that the geometrical representation of the pair so formed is parallel lines.

5. Find whether the following pair of linear equations is consistent or in consistent: $3x + 2y = 8$ and $6x - 4y = 9$.

6. Find the value of k for which the lines $5x + 7y = 3$ and $15x + 21y = k$ coincides.

7. If $x = a$ and $y = b$ is the solution of the pair of equations $x - y = 2$ and $x + y = 4$, find the values of a and b.

8. If the system of equations $6x - 2y = 3$ and $kx - y = 2$ has a unique solution, find k.

9. For what values of k will the following pair of linear equations have infinitely many solutions? $kx + 3y - (k - 3) = 0$ and $12x + ky - k = 0$

10.For what value of k will the following system of linear equations have no solution?

$3x + y = 1$; $(2k - 1)x + (k - 1)y = 2k + 1$

11. For what value of k for which the following pair of linear equations have infinitely many solutions: $2x + 3y = 7$, $(k - 1)x + (k + 2)y = 3k$ is

12. For what value of k, do the equations $3x - y + 8 = 0$ and $6x - ky = -16$ represent coincident lines

13. Solve: $2x + 3y = 11$ and $2x - 4y = -24$

14. If $217x + 131y = 913$, $131x + 217y = 827$, then find the value of x and y

15. Half the perimeter of a garden, whose length is 4 more than its width is 36 m. Find the dimensions of the garden

16.Draw the graphs of the equations $x - y + 1 = 0$ and $3x + 2y - 12 = 0$. Determine the co-ordinates of the vertices of the triangle formed by these lines and x-axis. Shade the triangular region.

17. Draw the graph $x - y + 1 = 0$ and $2x + y - 10 = 0$. Shade the region bounded by these lines and x-axis. Find the area of the shaded region.

18.Five years ago, Nuri was thrice as old as Sonu. Ten years later, Nuri will be twice as old as Sonu. How old are Nuri and Sonu?

19. A part of monthly hostel charges in a college is fixed and the remaining depends on

the number of days one has taken food in the mess. When a student 'A' takes food for 22 days, he has to pay Rs. 1380 as hostel charges; whereas a student 'B', who takes food for 28 days, pays Rs. 1680 as hostel charges. Find the fixed charges and the cost of food per day.

20. Meena went to a bank to withdraw Rs 2,000. She asked the cashier to give her Rs. 50 and Rs. 100 notes only. Meena got 25 notes in all. How many notes of Rs. 50 and Rs. 100 she received?

21. The ratio of income of two persons is 9 : 7 and the ratio of their expenditure is 4 : 3, if each of them manage to save Rs. 2000/month. Find their monthly incomes

MATHS LAB ACTIVITIES

ACTIVITY 1:To find the zeros of a quadratic polynomial .

ACTIVITY 2. To verify the conditions of consistency/ inconsistency for a pair of linear equations in two variables by graphical method

ACTIVITY 3.To verify that the given sequence is an arithmetic progression by paper cutting and pasting method.

ACTIVITY 4: To find the sum of first n natural numbers. To establish a formula for the sum of first n terms of an Arithmetic Progression.

Activity 5: To verify the Basic Proportionality Theorem .

ACTIVITY 6:To verify that the lengths of tangents drawn from an external point to acircle are equal.

ACTIVITY 7: To verify the distance formula by graphical method.

ACTIVITY 8 :To determine the probability of getting a prime nuber etc., by throwing a die several times.

Sub. Teacher

2/5/26
PRINCIPAL

PM SHRI K V SHAJAPUR

Social Science

Holiday Homework and Multidisciplinary Project for IX

Geography: Map major trade routes and analyze the role of lifelines like roadways and airways in global connectivity.

Economics: Critically analyse consumer rights (Right to Safety, Right to Inform), duties, and the impact of the Consumer Protection Act (COPRA).

Creative Inclusions:
Case Studies: Write a 1-page report on a real-life consumer exploitation case

Original Writings: Write a poem or a short "letter to the editor" about a social issue like gender inequality or water scarcity.

Holiday Homework and Multidisciplinary Project VIII

Map work:
Identify and label key trading ports (e.g., Calcutta, Goa, Cape of Good Hope, Batavia).

Research how colonial powers imposed laws and administration in one region (e.g., British in Bengal, Portuguese in Goa).

Chronicle of the Revolt - Mapping the Uprising
Task 1: Create a 'Timeline Map' of the Rebellion.
Instructions:
Take a blank outline map of North and Central India.
On the map, mark and label the six major centres of the revolt (Meerut, Delhi, Kanpur, Lucknow, Jhansi, Gwalior).
Beside each centre, write:
The Date when the revolt broke out there.
One Key Leader associated with that centre (e.g., Rani Lakshmibai - Jhansi).

Creative Inclusions:
Case Studies: Write a 1-page report on a real-life consumer exploitation case

Original Writings: Write a poem or a short "letter to the editor" about a social issue like gender inequality or water scarcity.

Holiday Homework and Multidisciplinary Project X

Prepare a project on Consumer Rights OR Social Issues OR
Sustainable Development (Interdisciplinary)

Map work - locate the following on map

CLASS X (2025-26)
MAP WORK

<table>
<tr><th>Subject</th><th>Name of the Chapter</th><th>List of areas to be located/ labeled/ identified on the map</th></tr>
<tr><td>History</td><td>Nationalism in India</td><td>I. Congress sessions:
• 1920 Calcutta
• 1920 Nagpur
• 1927 Madras session
II. 3 Satyagraha movements:
• Kheda
• Champaran
• Ahmedabad mill workers
III. Jallianwala Bagh
IV. Dandi March</td></tr>
<tr><td>Geography</td><td>Resources and Development</td><td>Identify Major Soil Types</td></tr>
<tr><td></td><td>Water Resources</td><td>Locating and Labeling:
• Salal
• Bhakra Nangal
• Tehri
• Rana Pratap Sagar
☐ Sardar Sarovar
☐ Hirakund
☐ Nagarjun Sagar
☐ Tungabhadra</td></tr>
<tr><td></td><td>Agriculture</td><td>Identify:
• Major areas of Rice and Wheat
• Largest/Major producer states of Sugarcane, Tea, Coffee,
• Rubber, Cotton and Jute</td></tr>
<tr><td></td><td>Minerals and Energy Resources</td><td>Identify:
Iron Ore Mines
Mayurbhanj
Durg
Bailadila
Bellary
Kudremukh
Coal Mines
Raniganj
Bokaro
Talcher
Neyveli
Oil Fields
Digboi Naharkatia
Mumbai High
Bassien
Kalol
Ankaleshwar</td></tr>
<tr><td></td><td></td><td>Locate and label: Power Plants
Thermal
• Namrup
• Singrauli
• Ramagundam
Nuclear
• Narora
• Kakrapara
• Tarapur
• Kalpakkam</td></tr>
</table>

<table>
<tr><td></td><td>Manufacturing Industries</td><td>• Manufacturing Industries (Locating and labeling only)
• Cotton textile Industries: a. Mumbai, b. Indore, c. Surat, d. Kanpur, e. Coimbatore
• Iron and Steel Plants: a. Durgapur, b. Bokaro, c. Jamshedpur, d. Bhilai, e. Vijayanagar, f. Salem
• Software technology Parks: a. Noida, b. Gandhi-nagar, c. Mumbai, d. Pune, e. Hyderabad, f. Bengaluru, g. Chennai,h. Thiruvananthapuram</td></tr>
<tr><td></td><td>Lifelines of National Economy</td><td>Locating and Labeling
a. Major Sea Ports
• Kandla • Mumbai • Marmagao • New Mangalore • Kochi
• Tuticorin • Chennai • Visakhapatnam • Paradip • Haldia
b. International Airports
• Amritsar (Raja Sansi-Sri Guru Ram Das ji)
• Delhi (Indira Gandhi)
• Mumbai (Chhatrapati Shivaji)
• Chennai (Meenambakkam)
• Kolkata (Netaji Subhash Chandra Bose)
• Hyderabad (Rajiv Gandhi)</td></tr>
</table>

Principal sign. 30/4/26

Sub. teachers sign.

1. Divyanshi Santhla
2. Deepak Yadav

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

SUMMER BREAK HOLIDAY HOMEWORK

SUBJECT - VOCATIONAL EDUCATION

NOTE- Complete all of these questions in your vocational education notebook.

Class – 6 (A+B)

Q.1 What is a kitchen garden? Why is it important for a school?

Q.2 Name any five vegetables that can be grown in a kitchen garden.

Q.3 Make a list of tools used in gardening and draw any five of them with their uses.

Q.4 Try growing one plant at home (like coriander, mint,or tomato). Write the steps you followed and make observation table (like day and growth).

Q.5 Write a short paragraph on "My Dream Kitchen Garden".

Class – 7 (A+B)

Q. 1 What is a plant nursery?

Q. 2 Why are plant nurseries important?

Q.3 Name any four types of plants grown in a nursery.

Q.4 Draw and label a simple plant nursery setup.

Q.5 Prepare a small pot with soil and grow a plant. Record its growth for a few days and make observation table.

Q.6 Write a short paragraph on "Importance of Plant Nursery".

30/04/26
Signature

Subject teacher

30/4/26
Signature

Principal

PM SHRI KENDRIYA VIDYALAYA SHAJAPUR

SUMMER BREAK HOLIDAY HOMEWORK

SUBJECT - VOCATIONAL EDUCATION

NOTE- Complete all of these questions in your vocational education notebook.

Class - 8 (A+B)

Q.1 What is hydroponics? Name any two plants that can be grown using hydroponics. How is hydroponics different from traditional soil farming?

Q.2 What is a nutrient solution? Why is water important in hydroponics? Explain the role of nutrients in plant growth.

Q.3 Try to grow a microgreen for preparing a healthy salad and paste the picture of microgreen in your notebook. Also Draw its steps.

Q.4 Write a short paragraph on "Future of Hydroponics".

Class – 12 (A+B)

Q. 1 What is occupational safety?

Q. 2 What is electrical shock? How to prevent electrical shock?

Q.3 Write the basic safety rules to follow while working with electrical equipment.

Q.4 What precautions should be taken to avoid electric shock?

Q.5 A person gets an electric shock while repairing a device. How will you respond?

30/04/26

Signature

Subject teacher

30/4/26

Signature

Principal

SUMMER VACATION HOLIDAY HOME WORK
CLASS XII CHEMISTRY (DO IN CLASS NOTE BOOK)

1. Components of a binary mixture of two liquids A and B were being separated by distillation. After some time separation of components stopped and composition of vapour phase became same as that of liquid phase. Both the components started coming in the distillate. Explain why this happened?

2. Explain why on addition of 1 mole of NaCl to 1 L of water, the boiling point of water increases, while addition of 1 mole of methyl alcohol to 1 L of water decreases its boiling point.

3. Explain the solubility rule "like dissolves like" in terms of intermolecular forces that exist in solutions.

4. Concentration terms such as mass percentage, ppm, mole fraction and molality are independent of temperature, however molarity is a function of temperature. Explain.

5. What is the significance of Henry's law constant Kh ?

6. Explain the following phenomena with the help of Henry's law.

(i) Painful condition known as bends.

(ii) Feeling of weakness and discomfort in breathing at high altitude. (b) Why soda water bottle kept at room temperature fizzes on opening?

7. Why is the vapour pressure of an aqueous solution of glucose lower than that of water?

8. How does sprinkling of salt help in clearing the snow covered roads in hilly areas? Explain the phenomenon involved in the process.

9. Give an example of a material used for making semipermeable membrane for carrying out reverse osmosis.

10. Using Raoult's law explain how the total vapour pressure over the solution is related to mole fraction of components in the following solutions.

(a) $CHCl_3$ (l) and CH_2Cl_2(l) (b) NaCl (s) and H O (l)

11. When kept in water, raisin swells in size. Name and explain the phenomenon involved with the help of a diagram. Give three applications of the phenomenon.

12. Why is the mass determined by measuring a colligative property in case of some solutes abnormal? Discuss it with the help of van't Hoff factor.

13. Match the items given in Column I and Column II.	
A. Saturated solution	1. Solution having same osmotic pressure at a given temperature as that of given solution.
B. Binary solution	2. A solution whose osmotic pressure is less than that of another.
C. Isotonic solution	3. Solution with two components.
D. Hypotonic solution	4. A solution which contains maximum amount of solute that can be dissolved in a given amount of solvent at a given temperature.
E. Solid solution	5. A solution whose osmotic pressure is more than that of another.
F. Hypertonic solution	6. A solution in solid phase.

NOTE : SOLVE NCERT INTEXT AND EXECISE Q.A. IN YOUR CLASS NOTE BOOK.

Z. K. Gupta

SIGNATURE OF THE SUBJECT TEACHER

4/25/26

PRINCIPAL

(a) What is the colour of ferrous sulphate crystals? How does this colour change after heating?

(b) Name the products formed on strongly heating ferrous crystals. What type of chemical reaction occur in this change?

What is oxidation reaction?

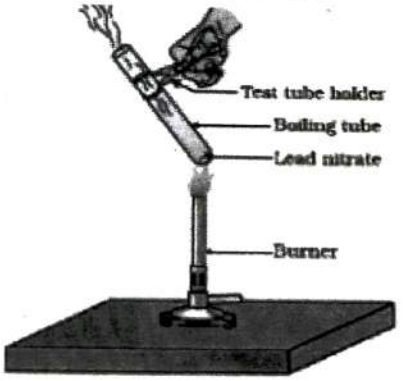
Identify (i) the substance oxidised (ii) the substance reduced in the given equation.

$ZnO + C \rightarrow Zn + CO$

(a) Why do silver articles turn black when kept in the open for a few days? Name the phenomenon involved.

(b) Name the black substance formed and give its chemical formula.

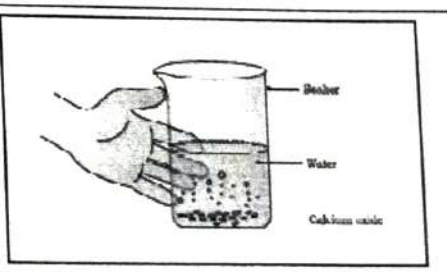
Observe the following figure and answer the questions.



a) Identify the type of reaction.
b) Write a balanced chemical equation for the reaction.
c) What are the gaseous products formed in this reaction

(a) Write a balanced chemical equation involved in the above reaction.

(b) Write one use of the solution of the product formed in the above reaction.



A shiny brown coloured element 'X' on heating in air becomes black in colour. Name the element 'X' and the black coloured compound formed. Write the chemical equation for the reaction.

NOTE : SOLVE NCERT INTEXT AND EXECISE Q.A. IN YOUR CLASS NOTE BOOK.

SIGNATURE OF THE SUBJECT TEACHER

21/5/26

PRINCIPAL

WORK SHEET BASED ON CHEMICAL REACTION AND CHEMICAL EQUATION

BALANCED THE FOLLOWING CHEMICAL EQUATION :

1. $Al + CuCl_2 \rightarrow AlCl_3 + Cu$

2. $FeSO_4 \rightarrow Fe_2O_3 + SO_2 + SO_3$

3. $Fe + H_2O \rightarrow Fe_3O_4 + H_2$

4. $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + HCl$

5. $Ca(OH)_2 + HNO_3 \rightarrow Ca(NO_3)_2 + H_2O$

6. $Pb(NO_3)_2 \rightarrow PbO + NO_2 + O_2$

7. $MnO_2 + HCl \rightarrow MnCl_2 + H_2O + Cl_2$

8. $C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O$ + energy

9. $HNO_3 + Ca(OH)_2 \rightarrow Ca(NO_3)_2 + H_2O$

(II) WRITE CHEMICAL EQUATIONS FOR THE FOLLOWING REACTIONS AND BALANCE THEM:

1. Barium chloride reacts with ammonium sulphate to give ammonium chloride and precipitate of barium sulphate.

2. Potassium metal reacts with water give potassium hydroxide and hydrogen gas.

3. Calcium hydroxide + carbon dioxide → calcium carbonate + water

4. zinc + silver nitrate → zinc nitrate + silver

5. Potassium bromide + barium iodide → potassium iodide + barium bromide

A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by emission of light. If the burning ribbon is now placed in atmosphere of nitrogen. It continues to burn and forms a compound Y.

(i) Write the chemical formula of X and Y.

(ii) Write a balanced chemical equation when X is dissolved in water.

1. Give an example of photo chemical reaction.

2. Give an example of decomposition reaction.

3. Give an example of combination reaction.

P.T.O

कक्षा 12वीं 'अ' एवं 'ब' विषय हिंदी, आवंटित परियोजना कार्य के विषय सत्र 2026-27

स.क्र.	विद्यार्थी का नाम	परियोजना का विषय
1	आराधना मालवीय	हिंदी साहित्य में प्रगतिवाद
2	हर्षिता शर्मा	पर्वों का बदलता स्वरूप
3	केफिया खान	भीमराव अंबेडकर की कल्पना का समाज
4	खुशी भारती	ज्ञानपीठ पुरस्कार प्राप्त हिंदी के साहित्यकार
5	माही देवड़ा	चार्ली चैपलिन का भारती करण
6	संदीप भिलाला	हिंदी साहित्य का काल विभाजन
7	तेजस्वी शर्मा	पीडी अंतराल के प्रमुख कारण एवं निवारण के उपाय
8	आयुष शर्मा	हिंदी भाषा एक केरियर विकल्प के रूप में
9	भौमिक भावसार	भारतीय संविधान की 10 विशेषताओं का विस्तार से विवरण
10	भूमिका पवार	मोहनजोदड़ो की नगर नियोजन व्यवस्था
11	चैतन्य शर्मा	विभाजन पर आधारित रचनाएं
12	दीक्षा गवली	जीवन में संगीत का महत्व
13	दिव्यांश भाटिया	काव्य में बिंबों का महत्व
14	हंसिका चंदेल	हिंदी साहित्य के वीरगाथा काल की विशेषताएं
15	जुझर राज	हिंदी के रीतिकालीन काव्य की विशेषता विशेषताएं
16	कृष्णा प्रजापति	सिंधु घाटी सभ्यता हमारा गौरव
17	कुंज गज्जर	हिंदी का बाल साहित्य
18	कुंश शर्मा	मालवा की लोक संस्कृति
19	लव शर्मा	विज्ञापन की दुनिया
20	मंशा नागर	हिंदी और इंटरनेट
21	निकिता परमार	औरतों की शिक्षा और उनके मानवाधिकार
22	नित्या भावसार	छायावाद और उसके पांच कवियों का व्यक्तित्व एवं कृतित्व
23	परिधि पंचोली	कला का जीवन से संबंध
24	रश्मि गवली	महत्वपूर्ण नारे और उनका संदर्भ
25	रिया पाटीदार	विज्ञापन का समाज पर प्रभाव
26	शौर्य राठौर	हिंदी के विकास में सिनेमा का योगदान
27	शुभ्र राय	शहरी और देहाती जीवन में अंतर
28	तनीषा कसेरा	वैश्विक स्तर पर हिंदी की स्थिति
29	वंशिका पवार	एन फ्रैंक की जीवनी
30	यश जाट	भारतीय बाजार का बदलता स्वरूप
31	जेबा शेख	कला का अस्तित्व व्यवस्था का मोहताज नहीं
32	सुहाना	हिंदी साहित्य में ग़ज़ल
33		विस्थापन की समस्या और स्त्री
34		कार्य कुशलता पर जाति प्रथा का प्रभाव
35		बाल विवाह और बेमेल विवाह
36		प्राकृतिक आपदाओं से जुड़ी सूचनाओं चित्र और आंकड़ों का संकलन
37		आजादी के 70 वर्ष और युवाओं की भूमिका

2/5/26

SUMMER VACATION HOMEWORK
CLASS -12
SUBJECT - ENGLISH

1. (A) Your school is organizing a road safety awareness workshop for students of class IX XII. As the head boy of your school, draft a notice informing the students about the workshop. Include other necessary details. You are Ashna/Ashish. Put your notice in a box.

   (B) Your school is organizing an Inter-House Science Model-Making-Competition. As President of the Science Club, draft a notice to inform all House members from IX-XII about the competition and specify the number of registrations invited per house. Include other necessary details. You are Mitali/Mukesh. Put your notice in a box.

2. The rapid expansion of urban sprawl (the geographic extent of cities. and towns,) is mainly due to the desire for increased living space. This urban sprawl comes with a cost of air pollution, water pollution, and disruption of environmentally sensitive areas. Write a letter to the editor of a National daily expressing your concern over the above issue and also suggest ways to improve the situation. You are Sonal of 14, A, R.P. Nagar, New Delhi. You may use the following cues along with your own ideas to compose the letter.

   - What is urban sprawl?
   - What is the long term impact of urban sprawl in over daily lives?
   - How can effective urban design and planning reduce problems of urban sprawl?
   -

3. Explain the significance of the title "The Last Lesson."
4. Write character sketch of all characters of the chapter " The last lesson".
5. Read chapter "The Third level and The Tiger king" from vistas-
   - Write important themes
   - Character sketch of important characters
6. Contrast Saheb and Mukesh as symbols of lost childhood.
7. Discuss the theme of child labour in "Lost Spring."
8. Why is Mukesh determined to break the family tradition?

(Homework to be done in English Notebook)

Shumika 30/04/26

30/4/26

HOLIDAYS HOMEWORK – SUMMER VACATION 2026-27

COMPUTER SCIENCE

XII

1. Write a Python program to sum all the items in a list.
2. Write a Python program to get the largest number from a list.
3. Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings.
   Sample List : ['abc', 'xyz', 'aba', '1221']
4. Write a Python program to remove duplicates from a list.
5. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).

1. Write a Python program to count the number of characters (character frequency) in a string.
   Sample String : google.com'
   Expected Result : {'o': 3, 'g': 2, '.': 1, 'e': 1, 'l': 1, 'm': 1, 'c': 1}
2. Write a Python program to get a string from a given string where all occurrences of its first char have been changed to '$', except the first char itself.
   Sample String : 'restart'
   Expected Result : 'resta$t'
3. Write a method in python to display the elements of a list twice if it is a number and display the element terminated with'*' if it is not a number.
4. Write a user defined function findname(name) where name is an argument in python to delete phone number from a dictionary phonebook on the basis of the name ,where name is the key.
5. Write a program to input employee number and name for N employees and display all employees' information in ascending order of their employee number.

1. Write an interactive menu driven program with the following four functions:
   (a) To create a text file called "Nation.txt"
   (b) Display the file
   (c) Append relevant content to the file
   (d) Make a copy of the file
   (e) Count the total number of "the" in the file

1. A blood bank maintains data file "Blood.dat" that contains following information for every donor: donor name, donor date of birth, donor address, donor phone number and donor blood group. Write a complete program to do the following:
   a) Create a file of the donor
   b) Append a record in the file
   c) Display the records
   d) Given the blood group display name, address of the donor
   e) Modify the existing information of the donor

V. S. Sisodia

2/5/26
Principal

Summer Vacation - 2026

CLASS 12(B) Commerce, Home Work, Subject :- Accountancy

(1) Solve 30-30 Questions from the following headings :-
(Solve all types questions, Easy, Average & Hots)

I ACC. for Partnership firms - Fundamentals.

II change in Profit sharing Ratio among the existing partners

III. Admission of a Partner (upto the chapter disscussed)

(2) Solve board questions from the above topics for the year 2024-25 & 2025-26

(3) Prepare project work comprehensive work as prepared in class XI

30/4/2026

Summer Vacation - 2026

CLASS - 12(B) Comm, HOME WORK, SUBJECT : BUS. STUDIES

1. Prepare Case studies based questions from the following chapters :- (20-20)
   1. Nature & Significance of Management
   2. Principles of Management
   3. Business Environment

2. Solve all assertion & reasoning based questions and answer from the above chapters.

3 Solve board questions from the above Topics 2024-25 2025-26

2/5/26

30/4/2026

XII A (PYQ's).

AISSCE Home Assignment – 01

UNIT – I ELECTROSTATICS

Chapter – 01 Electric charges and Fields

CBSE 2023

Set I

1. The magnitude of the electric field due to a point charge object at a distance 4.0 m is 9 N/C. From the same charged object the electric field of magnitude, 16 N/C will be at a distance of

(a) 1 m (b) 2 m (c) 3 m (d) 6 m

Set II

2. An isolated point charge particle produces an electric field $\vec{E}$ at a point 3 m away from it. The distance of the point at which the field is $\frac{\vec{E}}{4}$ will be

(a) 2 m (b) 3 m (c) 4 m (d) 6 m

Set III

3. An electric dipole moment 2×10^{-8} C m in a uniform electric field experiences a maximum torque of 6×10^{-4} N m. The magnitude of electric field is

(a) 2.2×10^{3} Vm^{-1} (b) 1.2×10^{4} Vm^{-1} (c) 3.0×10^{4} Vm^{-1} (d) 4.2×10^{3} Vm^{-1}

4. A point charge q_0 is moving along a circular path of radius a, with a point charge - Q at the centre of the circle. The kinetic energy of q_0 is

(a) $\frac{q_0 Q}{4\pi\varepsilon_0 a}$ (b) $\frac{q_0 Q}{8\pi\varepsilon_0 a}$ (c) $\frac{q_0 Q}{4\pi\varepsilon_0 a^2}$ (d) $\frac{q_0 Q}{8\pi\varepsilon_0 a^2}$

5. **Assertion (A) :** Work done in moving b a charge around a closed path. in an electric field is always zero.
Reason (R) : Electrostatic force is a conservative force.

6. (a) (i) Use Gauss's law to obtain an expression for n the electric field due to an infinitely long thin straight wire with uniform linear charge density λ.
(ii) An infinitely long positively charged straight wire has a linear charge density λ. An electron is revolving in a circle with a constant speed v such that the wire passes through the centre, and is perpendicular to the plane of the circle. Find the kinetic energy of the electron in terms of magnitudes of its charge and linear charge density λ of the wire.
(iii) Draw the graph of kinetic energy as a function of linear charge density λ. (5)

. Consider two identical point charges located at points (0,0) and (a,0). Is there a point on the line joining them at which the electric field is zero? (2)

CBSE 2022

1. A negatively charged object X is repelled by another charged object Y. However an object Z is attracted to object Y. which of the following is the most possibility for the object Z?

(a) positively charged only (b) negatively charged only
(c) neutral or positively charged (d) neutral or negatively charged

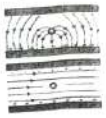
2. In an experiment three microscopic latex spheres are sprayed into a chamber and become charged with charges +3e, +5e and -3e respectively. All the three spheres come in contact simultaneously for a moment and got separated. Which one of the following are possible values for the final charge on the sphere?

(a) +5e, -4e, +5e (b) +6e, +6e, -7e (c) -4e, +3.5e, +5.5e (d) +5e, -8e, +7e

3. An object has net charge 1 C and gains 5.0 x 1018 electrons. The net charge on the object becomes-

(a) - 0.80 C (b) + 0.80 C (c) + 1.80 C (d) – 0.20 C

4. Which of the following diagrams correctly represents the electric field between two charged plates if a neutral conductor is placed in between the plates?



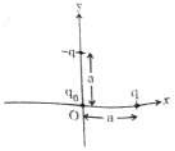

5. The magnitude of electric field due to a point charge 2q, at a distance r is E. Then the magnitude of the electric field due to a uniformly charged thin spherical shell of radius R with total charge q at distance r/2 (r >> R) will be

(a) E/4 (b) 0 (c) 2E (d) 4E

6. A square sheet of side 'a' is lying parallel to XY plane at z = a. The electric field in the region is $\vec{E} = c\,z^2\,\hat{k}$. The electric flux through the sheet is

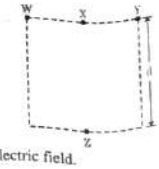
(a) $a^4 c$ (b) $\frac{1}{3}a^3 c$ (c) $\frac{1}{3}a^4 c$ (d) 0

7. Three charges q, -q and q_0 are placed as shown in figure. The magnitude of the net force on charge q_0 at point O is $\left[k = \frac{1}{4\pi\varepsilon_0}\right]$



(a) 0 (b) $\frac{2kqq_0}{a^2}$ (c) $\frac{\sqrt{2}kqq_0}{a^2}$ (d) $\frac{1}{\sqrt{2}}\frac{kqq_0}{a^2}$

8. Four objects W, X, Y and Z, each with charge +q are held fixed at four points of a square of side d as shown in figure. Objects X and Z are on the midpoints of the side of the square. The electrostatic force exerted by object W on object X is F. Then the magnitude of the force exerted by object W on Z is



(a) $\frac{F}{7}$ (b) $\frac{F}{5}$ (c) $\frac{F}{3}$ (d) $\frac{F}{2}$

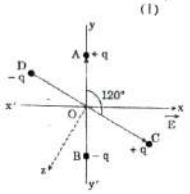
9. **Assertion (A) :** A negative charge in an electric field moves along the direction of electric field.
Reason (R) : On a negative charge a force acts in the direction of the electric field.

CBSE 2020

(SET – 1)

1. If the electric flux entering and leaving a closed surface in air are ϕ_1 and ϕ_2 respectively, the net electric charge enclosed within the surface is _____. (1)

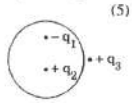
2. Two small identical dipoles AB and CD each of dipole moment $\vec{p}$ are kept at angle of 120^0 to each other in an external electric field $\vec{E}$ pointing along the x- axis as shown in the figure. Find the
   (a) dipole moment of the arrangement, and
   (b) magnitude and direction of the net torque acting on it. (3)



3. (a) Use Gauss's law to show that due to a uniformly charged spherical shell of radius R, the electric field at any point situated outside the shell at distance r from its centre is equal to the electric field at the same point, when the entire charge on the shell were concentrated at its centre. Also plot the graph showing the variation of electric field with r, for $r \leq R$ and $r \geq R$.
   (b) Two point charges of + 1μC and − 4 μC are kept 30 cm apart. How far from the + 1μC charge on the line joining the two charges, will the net electric field be zero? (5)

(SET – 2)

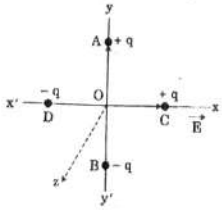
1. Electric flux through a spherical surface shown in the figure, is _____. (1)



2. (a) Two electric field lines cannot cross each other. Also they cannot form closed loops. Give reasons.
   (b) A particle of charge 2 μC and mass 1.6 g is moving with a velocity $4\,\hat{i}$ ms^{-1}. At t = 0 the particles enters in a region having an electric field $\vec{E}$ (in NC^{-1}) = $80\,\hat{i} + 60\,\hat{j}$. Find velocity of the particle at t = 5 s. (3)

(SET – 3)

1. Two small identical dipoles AB and CD each of dipole moment $\vec{p}$ are kept at angle of 90^0 to each other in an external electric field $\vec{E}$ pointing along the x- axis as shown in the figure. Find the
   (a) dipole moment of the arrangement, and
   (b) magnitude and direction of the net torque acting on it. (3)



CBSE 2019

1. Two large charged plane sheets of charge densities + σ and -2σ C/m^2 are arranged vertically with a separation of d distance between them. Deduce expressions for the electric field at points (i) to the left of the first sheet, (ii) to the right of the second sheet, and (iii) between the sheets. (3)

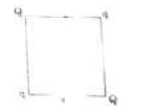
2. A spherical conducting shell of inner radius r_1 and outer radius r_2 has a charge Q.
   (a) A charge q is placed at the centre of the shell. Find out the surface charge density on the inner and outer surface of the shell.
   (b) Is the electric field inside a cavity (with no charge) zero; independent of the fact whether the shell is Spherical or not? Explain. (3)

3. Draw the pattern of electric field lines due to an electric dipole. (1)

4. Draw the pattern of electric field lines due to two positive charges placed a distance d apart. (1)

CBSE 2018

1. Four charges Q, q, Q and q are placed at the corners of a square of side 'a' as shown in figure. Find the (a) resultant electric force on a charge Q, and (b) potential energy of this system. (3)



2. Three charges q, -4q and 2q are placed at the vertices of an equilateral triangle ABC of side 'l' as shown in figure.
   (a) Obtain the expression for the magnitude of the resultant electric force acting on charge q.
   (b) Find out the amount of work done to separate the charge at infinite distance. (3)

3. (a) Define electric flux.is it scalar or vector quantity?
   A point charge q is at a distance of d/2 directly above the centre of a square of side 'd' as shown in the figure. Use Gauss' law to obtain the expression for the electric flux through the square.
   (b) If the point charge is moved to a distance 'd' from the centre of the square and the side is doubled, explain how the electric flux will be affected. (5)

4. (a) Use Gauss' law to derive the expression for the electric field E due to a straight uniformly charged infinite line of charge density λ C/m.
   (b) Draw a graph to show the variation of E with perpendicular distance 'r' from the line of charge
   (c) Find the work done in bringing a charge 'q' from perpendicular distance r_1 to r_2 ($r_2 > r_1$). (5)

CBSE 2017

1. (a) Derive an expression for the electric field E due to a dipole of length '2a' at appoint at distance r from The centre of the dipole on the axial line.
   (b) Draw the graph E versus r for r >> a.
   (c) If this dipole were kept in a uniform external electric field E_0, diagrammatically represent the positio of the dipole in stable and unstable equilibrium and write the expressions for the torque acting on the dipole in both the cases. (5)

2. (a) Use Gauss's theorem to find the electric field due to a uniformly charged infinitely large plane thin she with surface charge density σ. (5)

(b) An infinitely large thin plane sheet has a uniform surface charge density $+\sigma$. Obtain the expression for amount of work done in bringing charge q from infinity to a point, distant r, in front of charged sheet.

CBSE 2016

1. Use Gauss's law to find the electric field due to a uniformly charged infinite plane sheet. What is the direction of field for positive and negative charge densities? (3)

CBSE 2015

1. Why do the electrostatic field lines not form closed loops? (1)

2. (a) Define electric flux. Write its S. I. unit.
"Gauss's law in electrostatics is true for any closed surface, no matter what its shape or size is."
Justify this statement with the help of a suitable example.
(b) Use Gauss's law to prove that electric field inside a uniformly charged spherical shell is zero. (5)

CBSE 2014

1. Two balls having equal positive charge 'q' Coulombs are suspended by two insulating strings of equal length. What would be the effect on the force when a plastic sheet is inserted between the two? (1)

2. (a) Deduce the expression for the torque acting on a dipole of dipole moment **p** in the presence of a uniform electric field **E**.
(b) Consider two hollow concentric spheres, S_1 and S_2, enclosing charges 2Q and 4Q respectively as shown in the figure.
(i) Find out the ratio of the electric flux through them.
(ii) How will the electric flux through the sphere S_1 change if a medium of dielectric constant 'ε_r' is introduced in the space inside S_1 in place of air ? Deduce the expression. (5)

CBSE 2013

o charges of magnitudes -2Q and +Q are located at points (a,0) and (4a,0) respectively. What is the ctric flux due to these charges through a sphere of radius '3a' with its centre at origin? (1)

Define electric dipole moment. Is it a vector or scalar? Derive the expression for the electric field of a dipole at a point on the equatorial plane of the dipole. (3)

Gauss's law deduce the expression for the electric field due to a uniformly charged spherical shell adius R at a point (i) outside and (ii) inside the shell. Plot a graph showing variation of electric field e function of $r > R$ and $r < R$. (r being the distance from the centre of the shell.) (5)

AISSCE Home Assignment – 02

UNIT – I ELECTROSTATICS

Chapter – 02 Electrostatic potential and capacitances

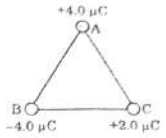
CBSE 2023

1. Two charged conducting spheres of radii a and b are connected to each other by a wire. Find the ratio of the electric fields at their surfaces.

OR

2. A parallel plate capacitor (A) of capacitance C is charged by a battery to voltage V. The battery is disconnected and an uncharged capacitor (B) of capacitance 2C is connected across A. Find the ratio of
(i) Final charges on A and B
(ii) total electrostatic energy stored in A and B finally and that stored in a initially. (3)

3. (i) Consider two identical point charges located at points (0,0) and (a,0). Is there a point on the line joining them at which the electric potential is zero? Justify your answer.
(ii) State the significance of negative value of electrostatic potential energy of a system of charges.
Three charges are placed at the corners of an equilateral triangle ABC of side 2 m as shown in figure. Calculate the electric potential energy of the system of three charges. (5)



CBSE 2022

1. The electric potential V at any point (x,y,z) is given by $V = 3x^2$ Where x is in metres and V in volts. The electric field at the point (1m, 0, 2m) is –
(a) 6 V/m along – x axis (b) 6 V/m along + x axis
(c) 1.5 V/m along – x axis (d) 1.5 V/m along + x axis

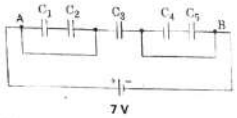
2. A variable capacitor is connected to a 200 V battery. If its capacitance is changed from 2 μF to X μF, the decrease in energy of the capacitor is 2×10^{-2} J. The value of X is –
(a) 1 μF (b) 2 μF (c) 3 μF (d) 4 μF

3. A + 3.0 nC charge Q is initially at rest at a distance of $r_1 = 10$ cm from a + 5.0 nC charge q fixed at the origin. The charge Q is moved away from q to a new position $r_2 = 15$ cm. In this process work done by the field is
(a) 1.29×10^{-5} J (b) 3.6×10^{5} J (c) -4.5×10^{-7} J (d) 4.5×10^{-7} J

4. Two charges 14 μC and − 4 μC are placed at (-12 cm, 0, 0) and (12 cm, 0, 0) in an external electric field $E = \frac{B}{r^2}$, where B = 1.2 x 10^6 N/ (cm)^2 and r is in metres. The electrostatic potential energy of the configuration is

(a) 97.9 J (b) 102.1 J (c) 2.1 J (d) - 97.9 J

CBSE 2020



(SET – 1)

1. In the figure given below, find the

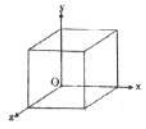
(a) Equivalent capacitance of the network between points A and B.
Given : $C_1 = C_5 = 8$ μF, $C_2 = C_3 = C_4 = 4$ μF.

(b) maximum charge supplied by the battery, and (c) total energy stored in the network. (3)

2. (a) Two point charges q_1 and q_2 are kept r distance apart in uniform external electric field $\vec{E}$. Find the work done in assembling this system of charges.

(b) A cube of side 20 cm is kept in a region as shown in the figure. An electric field $\vec{E}$ exists in the region such that the potential at a point is given by V = 10 x + 5, where V is in volt and x is in m. Find the

(i) Electric field $\vec{E}$, and (ii) total electric flux through the cube.



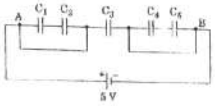
(SET – 2)

1. In the figure given below, find the

(a) Equivalent capacitance of the network between points A and B.
Given : $C_1 = C_5 = 4$ μF, $C_2 = C_3 = C_4 = 2$ μF.

(b) maximum charge supplied by the battery, and

(c) total energy stored in the network. (3)



(SET – 3)

1. The potential difference between two points in vacuum is V_0. If vacuum is replaced by a medium of dielectric constant K, the new value of potential difference will be ____.(1)

2. A capacitor of 4 μF is charged by a battery of 12 V. The battery is disconnected and a dielectric slab of dielectric constant 8 is inserted between the plates of the capacitor to fill the space completely. Find the change in the

(a) charge stored in the capacitor, (b) potential difference between the plates of the capacitor, and

(c) energy stored in the capacitor. (3)

CBSE 2019

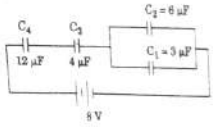
1. Draw the equipotential surfaces for an electric dipole. (1)

2. A 200 μF parallel plate capacitor having plate separation of 5 mm is charged by a 100 V dc source. It remains connected to the source. Using an insulated handle, the distance between the plates is doubled and a dielectric slab of thickness 5 mm and dielectric constant 10 is introduced between the plates. Explain with reason, how the (i) capacitance, (ii) electric field between the plates, (iii) energy density of the capacitor will change? (3)

3. In a network, four capacitors C_1, C_2, C_3 and C_4 are connected as shown in the figure.

(a) Calculate the net capacitance in the circuit.

(b) if the charge on capacitor C_1 is 6μC, (i) calculate the charge on capacitor C_3 and C_4, and (ii) net energy stored in the capacitors C_3 and C_4 connected in series. (3)



CBSE 2018

1. Four charges Q, q, Q and q are placed at the corners of a square of side 'a' as shown in figure. Find the (a) resultant electric force on a charge Q, and (b) potential energy of this system. (3)

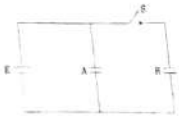
2. Three charges q, -4q and 2q are placed at the vertices of an equilateral triangle ABC of side 'l' as shown in figure.

(a) Obtain the expression for the magnitude of the resultant electric force acting on charge q.

(b) Find out the amount of work done to separate the charge at infinite distance. (3)

CBSE 2017

1. Two identical parallel plate capacitors A and B are connected to a battery of V volts with the switch S closed. The switch is now opened and the free space between plates of the capacitor is filled with a dielectric of dielectric constant K. Find the ratio of the total electrostatic energy stored in both capacitors before and after the introduction of the dielectric. (3)



CBSE 2016

1. A charge 'q' is moved from point A above the dipole of dipole moment 'p' to a point B below the dipole in equatorial plane without acceleration. Find the work done in the process. (1)

2. Define equipotential surface. Draw equipotential surfaces :

(i) In case of a single point charge and

(ii) In a constant electric field in Z- direction. Why the equipotential surfaces about a single point charge are not equidistant?

(iii) Can electric field exist to an equipotential surface? Give reason. (3)

3. Find the ratio of potential differences that must be applied across the parallel and series combinations of two capacitors C_1 and C_2 with their capacitances in the ratio 1:2 so that the energy stored in the two cases becom the same. (5)

4. (i) If two similar large plates, each of area 'A' having charge densities + σ and − σ are separated by a distanc 'd' in air. Find the expression for field at points between the two plates and on outer side of the plates.

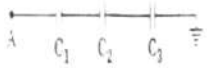
(a) Specify the direction of field in each case.

(b) The potential difference between the plates
(c) The capacitance of the capacitor so formed

(a) Two metallic spheres of radii R and 2R are charged so that both of these have same surface charge density 'σ'. If they are connected to each other with a conducting wire, in which direction will the charge flow and why? (5)

CBSE 2015

1. Calculate potential difference and the energy stored in the circuit shown in the fig. Given that potential at A is 90 V, $C_1 = 20\ \mu F$, $C_2 = 30\ \mu F$ and $C_3 = 15\ \mu F$ (3)



2. (a) Derive the expression for the energy stored in a parallel plate capacitor. Hence obtain the expression for the energy density of the electric field.
(b) A fully charged parallel plate capacitor is connected across an uncharged identical capacitor. Show that the energy stored in the combination is less than that stored initially in the single capacitor (5)

CBSE 2014

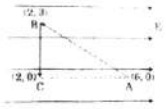
1. A parallel palate capacitor of capacitance C is charged to a potential V. It is then connected to another capacitor having same capacitance. Find out the ratio of the energy stored in the combined system to that stored initially in the single capacitor. (2)

CBSE 2013

1. A slab of material of dielectric constant K has the same area as that of the plates of a parallel plate capacitor but has the thickness d/2, where d is the separation between the plates. Find out the expression for its capacitance when the slab is inserted between the plates of the capacitor. (2)

CBSE 2012

1. A test charge 'q' is moved without acceleration from A to C along the path from A to B and then from B to C in electric field E as shown in the figure.
(i) Calculate the potential difference between A and C.
(ii) At which point (of the two) is the electric potential more and why? (3)



2. (a) Deduce the expression for the electrostatic energy stored in a capacitor of capacitance 'C' and having charge 'Q'.
(b) How will the (i) energy stored and (ii) the electric field inside the capacitor be affected when it is completely filled with a dielectric material of dielectric constant K? (3)

Home Assignment – 03

UNIT – II CURRENT ELECTRICITY

Chapter – 03 CURRENT ELECTRICITY

CBSE 2023 (Compartment)

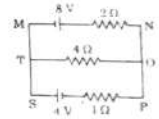
(SET -1)

1. When is more power delivered to a light bulb- just after it is turned on and the glow of the filament is increasing or after the glow becomes steady? Why? (2)

2. A battery is connected first across the series combination and then across the parallel combination of three resistances R, 2R and 3R. In which of the three resistances will power dissipated be maximum in the two cases? Justify your answer (2)

3. (i) Derive the relation between the current and the drift velocity of free electrons in a conductor. Briefly explain the variation of resistances of a conductor with rise in temperature.
(ii) An ammeter, together with an unknown resistance in series is connected across to identical batteries, each of emf 1.5 V, connected (i) in series, and (ii) in parallel. If the current recorded in the two cases be $\frac{1}{2}$ A and $\frac{1}{3}$ A respectively, calculate the internal resistance of each battery. (5)

4. (i) State Kirchhoff's rules. Use them to obtain the condition of balance for a Wheatstone bridge.
(ii) Use Kirchhoff's rule to determine the current flowing through the branches MN, TO and SP in the circuit shown in the figure.



(SET -2)

1. Assertion (A) : The temperature coefficient of resistance is positive for metals and negative for semiconductors.
Reason (R) : The charge carrier in metals are negatively charged whereas in semiconductors they are positively charged.

CBSE 2023

(SET -1)

1. A current of 0.8 A flows in a conductor of 40 Ω for 1 minute. The heat produced in the conductor will be

(a) 1445 J (b) 1536 J (c) 1569 J (d) 1640 J

2. A cell of emf E is connected across an external resistance R. When the current 'I' is drawn from the cell, the potential difference across the electrodes of the cell drops to V. The internal resistance 'r' of the cell is

(a) $\left(\frac{E-V}{E}\right)R$ (b) $\left(\frac{E-V}{R}\right)$ (c) $\frac{(E-V)}{I}R$ (d) $\left(\frac{E-V}{V}\right)R$

1. Define current density and relaxation time. Derive an expression for resistivity of a conductor in terms of number density of charge carriers in the conductor and relaxation time (3)

(SET – 2)

1. A steady current of 8 mA flows through the wire. The number of electrons passing through a cross-section of the wire in 10 s is

(a) 4.0×10^{16} (b) 5.0×10^{17} (c) 1.6×10^{16} (d) 1.0×10^{17}

2. A conductor of 10 Ω is connected across a 6 V ideal source. The power supplied by the source to the conductor is

(a) 1.8 W (b) 2.4 W (c) 3.6 W (d) 7.2 W

3. Two cells of emf E1 and E2 and internal resistances r1 and r2 are connected in parallel, with their terminals of the same polarity connected together. Obtain an expression for the equivalent emf of the combination. (3)

(SET – 3)

1. The current in a device varies with time t as $I = 6t$, where I is in mA and t is in s. The amount of charge that passes through the device during $t = 0$ s to $t = 3$ s is

(a) 10 mC (b) 18 mC (c) 27 mC (d) 54 mC

2. A potential difference V is applied across a conductor of length l and cross-sectional area A. Briefly explain how the current density j in the conductor will be affected if
   (a) the potential difference V is doubled
   (b) the conductor were gradually stretched to reduce its cross-sectional area to $\frac{A}{2}$ and then same potential difference V is applied across it. (3)

CBSE 2022

1. Kirchhoff's first rule $\Sigma I = 0$ and second rule $\Sigma IR = \Sigma E$ (where the symbols have their usual meanings) are respectively based on –

(a) conservation of momentum and conservation of charge.
(b) conservation of energy and conservation of charge.
(c) conservation of charge and conservation of momentum.
(d) conservation of charge and conservation of energy.

2. The electric power consumed by a 220 V – 100 W bulb when operated at 110 V is

(a) 25 W (b) 30 W (c) 35 W (d) 40 W

3. Which of the following has negative temperature coefficient of resistivity?

(a) metal (b) metal and semiconductor (c) semiconductor (d) metal and alloy

4. In a DC circuit the direction of current inside the battery and outside the battery respectively are –

(a) positive to negative terminal and negative to positive terminal.
(b) positive to negative terminal and positive to negative terminal.
(c) negative to positive terminal and positive to negative terminal.
(d) negative to positive terminal and negative to positive terminal.

5. A car battery is charged by 12 V supply and energy stored in it is 7.20×10^5 J. The charge passed through the battery is

(a) 6.0×10^4 C (b) 5.8×10^3 J (c) 8.64×10^6 J (d) 1.6×10^5 J

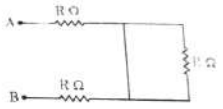
6. If n, e, τ and m have their usual meanings, then the resistance of a wire of length l and cross-sectional area A is given by –

(a) $\frac{ne^2A}{2ml\tau}$ (b) $\frac{ml}{ne^2A\tau}$ (c) $\frac{m\tau A}{ne^2l}$ (d) $\frac{ne^2\tau A}{2ml}$

7. Two sources of equal emf are connected in series. This combination is, in turn connected to an external resistance R. The internal resistance of two sources are r_1 and r_2 ($r_2 > r_1$). The potential difference across the source of internal resistance r_2 is zero, then R equals to –

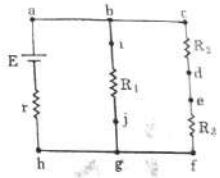
(a) $\frac{r_1 + r_2}{r_2 - r_1}$ (b) $r_2 - r_1$ (c) $\frac{r_1 r_2}{r_2 - r_1}$ (d) $\frac{r_1 + r_2}{r_2 \; r_1}$

8. The equivalent resistance between A and B of the network shown in figure is



(a) 3R Ω (b) $\frac{3}{2}$R Ω (c) 2R Ω (d) $\frac{2}{3}$R Ω

9. Case Study : An experiment was set up with the circuit diagram shown in figure. Given that
$R_1 = 10\ \Omega$, $R_2 = R_3 = 5\ \Omega$, $r = 0\ \Omega$ and $E = 5$ V



(i) The points with the same potentials are -

(a) b, c, d (b) f, h, j (c) d, e, f (d) a, b, j

(ii) The current through the branch bg is –

(a) 1 A (b) $\frac{1}{3}$ A (c) $\frac{1}{2}$ A (d) $\frac{2}{3}$ A

(iii) The power dissipated in R_1 is –

(a) 2 W (b) 2.5 W (c) 3 W (d) 4.5 W

(iv) The potential difference across R_3 is –

(a) 1.5 V (b) 2 V (c) 2.5 V (d) 3 V