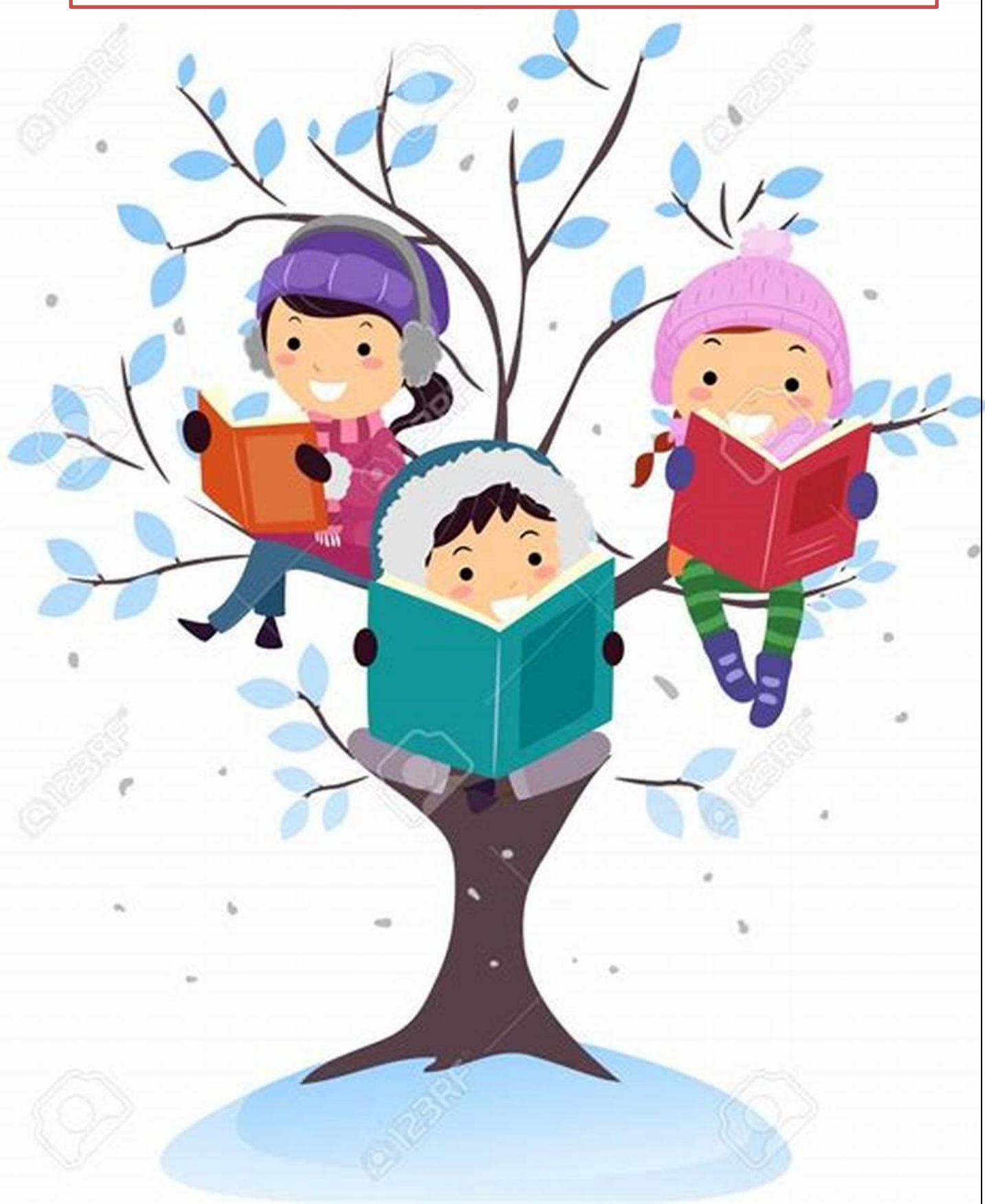


# WINTER HOLIDAY HOMEWORK SESSION 2023-24





## HOLIDAY HOMEWORK (2023–24)

### CLASS – IX

#### Instructions:

1. The holiday homework has been designed in the form of worksheet. There's space left after each question where you can write your answer. Get a print-out of it and write your answers in the same.
2. Don't make the work colourful. You may use black pen for headings and blue pen for rest of the content. Use your creativity to enhance your written content instead of using various colour combinations.
3. A neat & clean handwriting will be appreciated.
4. Compile all the pages in a stick file for submission and question 6, 7 & 8 to be done in PT copy.

### Name & Roll no.:

### Grammar

#### 1. Read the following dialogues and complete the passages that follow.

i) Mother: Why are you looking so worried?

Daughter: My exams are approaching.

Mother: When will they start?

Daughter: Next month, Mother.

Mother asked her daughter (a) \_\_\_\_\_ The daughter replied that her exams were approaching. Mother further asked (b) \_\_\_\_\_ The daughter told her mother that they would start in the following month.

ii) Preeti : Where did you spend your holidays?

Neel : I went to many hills stations.

Preeti : Which one did you like the most?

Neel : Honestly speaking. I liked all as I am very fond of hills.

Preeti asked Neel (a) \_\_\_\_\_ his holidays. Neel replied, that he had gone to many hill stations. Preeti then asked him (b) \_\_\_\_\_ the most. Neel said that honestly speaking he liked all as he was very fond of hills.

iii) Reena : Have you seen 'Three Idiots'?

Rakesh : I saw them yesterday in my class.

Reena : I was talking about the movie.

Rakesh : I thought that you were talking about the three idiots in the class.

Reena asked Rakesh (a) \_\_\_\_\_ 'Three Idiots'. Rakesh replied that he had seen them the day before in his class.

Reena further said that (b) \_\_\_\_\_ Rakesh replied that he had thought that she has been talking about the three idiots in the class.

iv) Abhishek : I have lost my wallet.

Inspector : How did you lose it?

Abhishek : My pocket was picked.

Inspector : Where did it happen?

Abhishek : In the local market, Sir.

Abhishek reported to the inspector (a) \_\_\_\_\_ lost his wallet. The inspector asked him how he had lost it. Abhishek replied that his pocket had been picked. The inspector further (b) \_\_\_\_\_ Abhishek respectfully replied that it has happened in the local market.

v) Prateek: I don't feel well today.

Raghav: What can I help you, Sir?

Prateek: Can you take me to the doctor?

Raghav: Yes, Sir.

Prateek told the Raghav (a) \_\_\_\_\_ Raghav asked respectfully what he could help him. Prateek asked the Raghav (b) \_\_\_\_\_ Prateek replied in the affirmative.

vi) Sanjay: I am surprised to see you here in Delhi. When did you come?

Madan: I came here yesterday. I have been offered a job here.

Sanjay told Madan (a) \_\_\_\_\_ and asked when he had come. Madan replied that he had come there the previous day and added that (b) \_\_\_\_\_

vii) Mannu: Where are you going to?

Annu: I am going to the market. Do you want anything?

Mannu asked Annu (a) \_\_\_\_\_. Annu replied (b) \_\_\_\_\_ and she further asked if she wanted anything.

viii) Sunita: Tomorrow is your birthday, what do you want as a gift?

Neetu: That is a lovely thought but I don't want anything.

Sunita asked Neetu since the next day was her birthday, (a) \_\_\_\_\_ but she did not want anything. Neetu replied that (b) \_\_\_\_\_

ix) Gardener: Did you water the plant today?

Dev: No, but I will, today.

Gardener: Then tomorrow I will get a sapling of sunflower.

The Gardener asked Dev (a) \_\_\_\_\_. Dev replied negatively but said he would that day. Then the gardener said that (b) \_\_\_\_\_.

x) Harry : Can you polish my shoes?

Cobbler : Yes sir. But I will take 10 for each shoe.

Harry : I will not mind as long as it is done.

Harry asked the cobbler (a) \_\_\_\_\_. The cobbler replied affirmatively but (b) \_\_\_\_\_. Harry said that he would not mind as long as it was done.

xi) Raman : What's the matter, Anitha?

Anitha : Oh, nothing. You cannot help me. I only want that blue umbrella.

Raman asked Anitha what (a) \_\_\_\_\_. She replied that it was nothing and he could not help her as (b) \_\_\_\_\_ that blue umbrella.

xii) Electrician: When did your electricity go?

Sohan: It is not working since evening.

The electrician asked Sohan (a) \_\_\_\_\_. Sohan replied that (b) \_\_\_\_\_.

xiii) Children : Yes, mam, we all pledge to save our trees as the trees are the lungs of the city.

Teacher : Let us start today by planting a sapling.

The teacher asked all the children to pledge to save trees. The children replied affirmatively (a) \_\_\_\_\_ as the trees are the lungs of the city. Then the teacher said

that (b) \_\_\_\_\_.

xiv) Buddha: Honesty is the best policy.

Disciple: Does honesty always pay?

Buddha: It may or may not, but at least you will never feel guilty.

Buddha in his preaching said that (a) \_\_\_\_\_ the best policy. A disciple asked him if honesty always pays, Buddha replied (b) \_\_\_\_\_ but at least he would never feel guilty.

xv) Doctor: You should take this medicine every day.

Patient: Should I take it before dinner or after dinner?

Doctor: No, you should take it after breakfast.

The Doctor advised the patient that (a) \_\_\_\_\_. The patient further asked (b) \_\_\_\_\_. The doctor replied negatively and then said that he should take it after breakfast.

xvi) Radha : Do you know how to swim?

Shikha : Yes I know. I have learnt it during this summer vacation.

Radha asked Shikha (a) \_\_\_\_\_. Then Shikha replied in affirmative and also added that (b) \_\_\_\_\_.

xvii) Anamika : Do you know swimming?

Ronak : Yes, I do.

Anamika : Can you teacher me how to swim?

Ronak : Yes, I will. Come to my swimming club tomorrow.

Anamika asked Ronak if he knew swimming. Ronak replied in the affirmative. Then, Anamika further asked him (a) \_\_\_\_\_ how to swim. Ronak replied that he would. He also asked Anamika to go to his swimming club (b) \_\_\_\_\_.

xviii) Father : How was the paper?

Son : It was easy. I could solve all the problems.

Father : Start preparing for the economics paper.

The father asked his son (a) \_\_\_\_\_. Son replied that that had been easy. He (b) \_\_\_\_\_ all the problems. Father further advised him to start preparing for the economics paper.

## 2. Convert the following sentences from Active to Passive voice.

i. The waiter filled the glasses with water.

\_\_\_\_\_

ii. He was driving the car so fast that it skidded on the snowy road.

\_\_\_\_\_

iii. A fresh batch of eggs was collected by the farmer's wife.

\_\_\_\_\_

iv. They are going to build a new airport near the old one.

\_\_\_\_\_

v. Rosemary was moved to tears at the sight of the miserable beggar.

\_\_\_\_\_

vi. The lighting caused a serious fire and damaged many nearby houses.

\_\_\_\_\_

vii. Today I accomplished my task my task successfully.

---

viii. We had to stop all other work to complete our assignment.

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ix. Don't subject the animals to cruelty.

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x. She was advised 15 days' rest after her surgery.

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xi. Gandhiji started the Quit India Movement in 1942.

---

xii. Gagan Narang and Vijay won bronze medals in the London Olympics.

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xiii. The modern means of communication have made life so much easier.

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xiv The government has launched a massive welfare programme in Jharkhand.

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xv. They have published all the details of the invention.

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xvi. We must take care of all living species on Earth.

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xvii. The most useful training of my career was given to me by my boss.

---

xviii. The students were laughing at the old man.

---

xix. Our task had been completed before sunset.

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xx. Please shut the door and go to sleep.

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### Composition

**3. You are Neena/Sumit, a student of class X, Blooms Public School, Dwarka, Delhi. The road leading to your school has become notorious for fast running vehicles. Students coming to the school in the morning and leaving in the afternoon are put to a great difficulty. School buses and parents who come to leave and take their children from school are put in inconvenience. Write a letter to the Deputy Commissioner, Delhi Police to post traffic constables on duty in front of the school in the morning as well as in the afternoon.**

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4. You are Aashima/Ashish studying in Seaface School, Kochi. The school started a month ago. All textbooks are not available in the market. Both students and teachers are put to great inconvenience. Write a letter to the Deputy Director (Sales), NCERT, New Delhi, complaining about the non-availability of textbooks.

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5. Kumar Shanu of Bareilly has purchased a Frost-free B.L.P. refrigerator of 265 litres from 'Lifestyle' Civil Lines, Bareilly. After a month of purchase, the freezing section of the refrigerator has failed to function. Write a letter to the Sales Manager of the firm complaining about it and requesting for the piece to be replaced, since there is a two-year warranty.

6. Write a travelogue describing a place you visited during vacation (can be a virtual tour also).

7. Make a graphic organizer for parts of speech in your PT/ Homework copy.

8. Find out the meaning and usage of the following literary devices (Figures of Speech) along with their examples.

\* Alliteration. \* Personification \* Onomatopoeia. \* Synecdoche \* Transferred Epithet. \* Metaphor. \* Simile \* Enjambment \* Repetition



बिरला पब्लिक स्कूल गंगानगर

सत्र 2023-24

कक्षा -9

विषय -हिंदी

## शीतकालीन गृह कार्य

विद्यार्थी का नाम -

अनुक्रमांक-

सामान्यनिर्देश:-

- अपनी पठन शैली व लेखन क्षमता का विकास कीजिए।
- सुंदर एवं शुद्ध शैली में लिखिए।
- सम्पूर्ण कार्य को इसी रूल शीट में कीजिए।
- सारा कार्य करने के पश्चात सारे पृष्ठों को एकत्रित कर क्लियर बैग में अथवा फाइल में रखिए

### व्याकरण

प्रश्न-1. - निम्नलिखित शब्दों का संधि -विच्छेद कर संधि का नाम लिखिए।

1. धर्मार्थ
2. दीपावली
3. मतानुसार
4. परमार्थ
5. गवाक्ष
6. देवालय
7. देवागमन
8. शिक्षार्थी
9. रेखांश
9. कवीन्द्र
10. कपीश
11. रजनीश
12. भानूदय
13. गुरूपदेश
14. लघूर्मि
15. मतैक्य
16. अत्यंत
17. पर्यावरण
18. नायिका
19. गायिका
- 20.



**प्रश्न-2.- निम्नलिखित वाक्यों में उचित स्थान पर विराम-चिह्न लगाइए ।**

1. क्या प्रधानाचार्य आज नहीं आए हैं

2. तुलसी ने रामचरित मानस में लिखा है परहित सरसि धर्म नहीं भाई

3. तुम कौन हो कहाँ रहते हो क्या करते हो यह सब मैं क्यों पूछूँ

4. बूढ़े ने डॉक्टर चड्ढा से कहा इसे एक नज़र देख लीजिए शायद बच जाए

5. कामायनी कवि जयशंकर प्रसाद की प्रसिद्ध कृति है

6. उस कवि सम्मेलन में रामधारी सिंह दिनकर, सूर्यकांत त्रिपाठी निराला जैसे कई महान कवि आए थे

7. वसंत ऋतु के त्योहार होली वसंत पंचमी वैसाखी हमें उल्लास से भर जाते हैं

8. हाय फूल सी कोमल बच्ची हुई राख की थी ढेरी

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9. क्या कहा तुम अनुत्तीर्ण हो गए

---

10. रोहन 125 राजौरी गार्डन दिल्ली में रहता है

---

11. यह पत्र 25 जुलाई 2014 को लिखा गया है

---

12. बचो बचो सामने से साँड आ रहा है

---

13. सुमन तुमने कितना स्वादिष्ट खाना बनाया है

---

14. सत्य अहिंसा और प्रेम जीवन के मूल आधार हैं

---

15. गांधी जी ने कहा परिश्रम का कोई विकल्प नहीं

---

16. तुम कल विद्यालय क्यों नहीं आए

---

17. अरे पर्स तो घर में ही छूट गया

---

18. वर्मा जी आप यहाँ किस होटल में ठहरे हैं

---

19. स्पर्श भाग 2 हमारी पाठ्यपुस्तक है

---

20. ने कहा सरल सहज और सादा जीवन हमें प्रकृति से जोड़ता है

---

21. कठिन परिश्रम करो सफलता निकट है

---

22. बच्चो शांतिपूर्वक बैठो

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23. एक महात्मा ने मुझको पाला पोसा और इतना बड़ा किया

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24. भक्त ने पूछा क्या ईश्वर हृदय में निवास करता है

---

25. साधु ने बताया ईश्वर कण कण में बास कहता है

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26. चिड़ीमार बोला ये कबूतर तोता मैना और मोर बिकाऊ हैं

---

27. क्या तुम आज विद्यालय नहीं जाओगे

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28. हमें अपने बड़ों की आज्ञा माननी चाहिए

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29. जून जुलाई में यहाँ खूब बरसात होती है

---

30. भीड़ नारे लगा रही थी महात्मा गांधी की जय

---

31. आज एम ए का परीक्षाफल आ गया

---

32. गोदान कफ़न पूस की रात प्रेमचंद की कृतियाँ हैं

---

33. हे भगवान अब क्या होगा

---

34. लोगों ने मिस्टर शर्मा को एम पी चुन लिया

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35. सुभाष चंद्र बोस ने कहा तुम मुझे खून दो मैं तुम्हें आजादी दूंगा

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**प्रश्न-3.- निम्नलिखित वाक्यों में अर्थ की दृष्टि से भेद बताइए ।**

11-आज तो कहीं से पैसे मिल जाएं ।

---

2-आपकी यात्रा शुभ हो ।

---

3-शायद आज बारिश हो !

---

4- हो सकता है आज धूप न निकले !

---

5- अब तक बाघ नदी पार कर चुका होगा !

---

6-ओह ! कितना सुंदर दृश्य है ।

---

7-हाय ! मै मर गया ।

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8- धत् ! सब गड़बड़ कर दिया ।

---

9-यदि तुम भी मेरे साथ रहोगी तो मुझे अच्छा लगेगा ।

---

10-अगर वे आ जाते तो मेरा काम बन जाता ।

---

11- अगर उसने झूठ न बोला होता तो उसकी नौकरी न जाती ।

---

12- वर्षा होती तो अनाज पैदा होता ।

---

13-निकल जाओ मेरे कमरे से बाहर ।

---

14- सारा सामान खरीद लाना ।

---

15- शाम तक जरूर आ जाना ।

---

16- मेहरबानी करके आप बाहर बैठिए ।

---

17-कृपया पत्रोत्तर शीघ्र दे ।

---

18-क्या वह आगरा का रही है?

---

19- क्या उसने झूठ बोला था?

---

20-क्या आप मुझसे नहीं मिलेंगे ?

---

21-लड़कियां नृत्य कर रही है।

---

22-उसकी पत्नी बहुत बीमार है।

---

23- शीला अध्यापिका है।

---

**प्रश्न-4.निम्नलिखित वाक्यों को निर्देशानुसार बदलिए ।**

1-मेरी चिट्ठी आई है । ( प्रश्नवाचक)

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2-लड़के घर में आराम कर रहे है । ( आज्ञावाचक)

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3-कृपया पत्र लिख दीजिए । ( आज्ञावाचक)

---

4-बच्चे लाइन में जाएंगे ।( प्रश्नवाचक)

5-रोगी उठ - बैठ सकता है। ( निषेधवाचक )

6-वाह ! क्या सुंदर दृश्य है । ( विधानवाचक )

7-राम घर पर है । ( संदेहवाचक)

8-सीता गा रही है । (विस्मयादिवाचक )

9-यह तुमने क्या किया । (विस्मयादिवाचक )

10-अभी बाजार से फल लाओ ।( निषेधवाचक )

**प्रश्न – 5. निम्नलिखित शब्दों में से उपसर्ग एवं मूलशब्द अलग करके लिखिए ।**

1.उपकार \_\_\_\_\_ 2.अध्यक्ष \_\_\_\_\_

3.प्रतिशोध \_\_\_\_\_ 4.समकोण \_\_\_\_\_

5. कुख्यात \_\_\_\_\_ 6.अधीर \_\_\_\_\_

7.अभिभावक \_\_\_\_\_ 8.अवलोकन \_\_\_\_\_

9.निबंध \_\_\_\_\_ 10.सत्यार्थ \_\_\_\_\_

11.सुमति \_\_\_\_\_ 12.अधर्म \_\_\_\_\_

13.अंतरात्मा \_\_\_\_\_ 14.पुरातत्व \_\_\_\_\_

15.सेवक \_\_\_\_\_ 16. चिरकाल \_\_\_\_\_

17.अनुसरण \_\_\_\_\_ 18.उत्थान \_\_\_\_\_

19.उल्लेख \_\_\_\_\_ 20.अत्युत्तम \_\_\_\_\_

**प्रश्न - 6. निम्नलिखित प्रत्ययों से नया शब्द बनाइए।**

1. आक \_\_\_\_\_

2. इया \_\_\_\_\_

3. आकु \_\_\_\_\_

4. आवट \_\_\_\_\_

5. आई \_\_\_\_\_

6. आप \_\_\_\_\_

7. आहट \_\_\_\_\_

8. इला \_\_\_\_\_

9. आनी \_\_\_\_\_

10. बाज \_\_\_\_\_

11. दान \_\_\_\_\_

12. नाक \_\_\_\_\_

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13. वान \_\_\_\_\_

14. औना \_\_\_\_\_

15 अन \_\_\_\_\_

प्रश्न 7. नीचे दिए गए शब्दों में उचित स्थान पर अनुस्वार व अनुनासिक का प्रयोग करते हुए शब्दों का मानक रूप लिखिए ।

1-नालदा	2-जाच	3- टाग	4-अतर	5-सक्षिप्त	6- बटवारा	7-सकरा
8-आख	9-अबर	10-हसमुख	11-अगड़ा	12-चद्रमा	13-सघर्ष	14-नितात
15-भाति	16-यन्त्र	17-सस्कार	18-अक	19-सम्बन्ध	20-गङ्गा	21-दीनबन्धु
22-अन्दर	23-मन्त्रालय	24-खण्डित	25-छन्द	26-हिन्दुस्तान	27-अगली	28-आचल
29-सास	30-तगी	31-तन्त्र	32-तम्बाकू	33-पखुड़ी	34-कम्पन	35-दगल
36-पकज	37-दैत्य	38-आधी	39-काटा	40-गाव	41-बन्डल	42-धन्धा
43-पन्चायत	44- बजारा	45-कहा	46-ऊट	47-आवला	48-ऊघना	49-चादनी
50-आसू	51-ऊचाई	52- छटनी	53-डाट	54-पहुचना।		

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प्रश्न 8. नागालैंड एवम् राजस्थान की कला और संस्कृति का 3 D मॉडल बनाइए ।



**BIRLA PUBLIC SCHOOL GANGANAGAR**  
**HOLIDAY HOMEWORK (2023-24)**  
**CLASS – IX**



CBSE AFFILIATION NO. 1730974

**Subject- Mathematics**

**General instruction:**

- *Writing should be very good and neat.*
- *Do all work with date & day.*
- *Try to do your written work regularly to enhance your writing skill.*
- *Pay special attention towards your health and caring.*

**Name:**

**Roll Number:**

**CHAPTER 1 NUMBER SYSTEMS**

**SECTION A (ONE MARKS QUESTION)**

Q1. Express 0.36 decimals in the form p/q form?  
 .....

Q2. Express  $0.\bar{4}$  decimals in the form p/q form?  
 .....

Q3. Is  $\sqrt{3}$  is rational or irrational number?  
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Q4. Evaluate:  $(2 + \sqrt{3})(2 - \sqrt{3})$ .  
 .....

Q5. Evaluate:  $(5 + \sqrt{3}) + (2 - \sqrt{3})$ .

Q6. Given one rational numbers lying between 0.232332333233332... and 0.212112111211112.

Q7. Simplify the following:  $\frac{(4 \times 10^7)(6 \times 10^{-5})}{8 \times 10^4}$ .

Q8. Simplify the following:  $\frac{(4ab^2)(6ab^{-3})}{ab^3}$ .

Q9. If  $a = 3$  and  $b = -2$ , find the values of:  $a^b + b^a$

Q10. If  $a = -5$  and  $b = -3$ , find the values of:  $(a+b)^{ab}$ .

Q11. If  $a = -1$  and  $b = 2$ , find the values of:  $a^a + b^b$

Q12. Solve the following equations for  $x$ :  $7^{2x+3} = 1$ .

Q13. Rationalize the denominator:  $\frac{3}{2\sqrt{5}}$

**SECTION B (TWO MARKS QUESTION)**

Q1. Solve the following equations for  $x$ :  $2^{3x-7} = 256$ .

Q2. Find three different irrational numbers between the rational numbers  $5/7$  and  $9/11$ .

Q3. If  $1176 = 2^a \times 3^b \times 7^c$ , find  $a$ ,  $b$  and  $c$ .

Q4. Rationalize the denominator:  $\frac{3}{2-\sqrt{5}}$

Q5. Represent  $2/5$  on number line?

**SECTION C (THREE MARKS QUESTION)**

Q1. Find five rational numbers between 1 and 2.

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Q2. Examine, whether the following numbers are rational or irrational:

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- a)  $\sqrt{5}$ .    b)  $3 + 2\sqrt{5}$     c)  $3 - \sqrt{3}$ .

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Q3. Prove that  $3 + \sqrt{5}$  is an irrational number.

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Q4. Rationalize the denominator:  $\frac{3 + \sqrt{5}}{3 - \sqrt{5}}$ .

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Q5. Visualize the representation of  $5.3\bar{7}$  on the number line upto 5 decimal places, that is upto 5.37777.

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**SECTION D (FOUR MARKS QUESTION)**

Q1. Represent  $\sqrt{6}$  on the number line.

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Q2. If  $a = xy^{p-1}$ ,  $b = xy^{q-1}$  and  $c = xy^{r-1}$ , prove that  $a^{q-r} b^{r-p} c^{p-q} = 1$

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Q3. Rationalize the denominator:  $\frac{3+\sqrt{5}}{3\sqrt{7}-2\sqrt{5}} + \frac{2}{3\sqrt{7}+2\sqrt{5}}$

Q4. Find five rational numbers between  $\frac{2}{3}$  and  $\frac{3}{7}$ .

Q5. Prove that  $\sqrt{5}$  is irrational number?

**HOTS**

Q1. If  $x = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$  and  $y = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ , find the value of  $x^2 + y^2 + xy$ .

Q2. If  $x = \frac{2-\sqrt{5}}{2+\sqrt{5}}$  and  $y = \frac{2+\sqrt{5}}{2-\sqrt{5}}$ , find the value of  $x^2 - y^2$ .

Q3. Determine the rational number p and q if

$$\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = p - 7\sqrt{5}q.$$

Q4. Simplify:  $\frac{6}{2\sqrt{3}-\sqrt{6}} + \frac{\sqrt{6}}{\sqrt{3}-\sqrt{6}} - \frac{4\sqrt{3}}{\sqrt{6}-\sqrt{2}}$ .

Q5. If  $x = 2 + 3\sqrt{2}$ , then find the value of  $(x + \frac{14}{x})$ .

### CHAPTER 2 Polynomial

#### SECTION A (ONE MARKS QUESTION)

Q1. Write the coefficient of  $x^2$  in each of the following:  $7 - 2X + 3X^2$ .

Q2. Write the degrees of  $7x^3 + 4x^2 - 3x + 12$  polynomials?

Q3. Classify  $2 + 3x$  polynomials as linear, quadratic, cubic and biquadratic polynomials?

Q4. Classify  $x + 3xy + y$  polynomials as polynomials in one-variable, two-variables etc?

#### SECTION B (TWO MARKS QUESTION)

Q1. use factor Theorem to find whether polynomial  $g(x)$  is a factor of polynomial  $f(x)$  or, not:  $f(x) = x^3 - 6x^2 + 11x - 6$ ;  $g(x) = x - 3$ .

Q2. Evaluate  $(399)^2$  using identities?

Q3. If  $a + b + c = 0$  and  $a^2 + b^2 + c^2 = 16$ , find the value of  $ab + bc + ca$ .

Q4. Simplify:  $(a + b + c)^2 + (a - b + c)^2$  ?

Q5. Evaluate  $(99)^3$  ?

Q6. Evaluate:  $(4x - 5y)(16x^2 + 20xy + 25y^2)$ ?

**SECTION C (THREE MARKS QUESTION)**

Q1. Show that  $(x - 2)$ ,  $(x + 3)$  and  $(x - 4)$  are factors of  $x^3 - 3x^2 - 10x + 24$ .

Q2. Find the value of  $k$  if  $x - 3$  is a factor of  $k^2x^3 - kx^2 + 3kx - k$ .

Q3. If  $x + \frac{1}{x} = 11$ , find the value of  $x^2 + \frac{1}{x^2}$ ?

Q4. If  $9x^2 + 25y^2 = 181$  and  $xy = -6$ , find the value of  $3x + 5y$ .

Q5. If  $a + b = 10$  and  $ab = 21$ , find the value of  $a^3 + b^3$ .

Q6. If  $x + \frac{1}{x} = 5$ , find the value of  $x^3 + \frac{1}{x^3}$ ?

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**SECTION D (FOUR MARKS QUESTION)**

Q1. Find the values of  $a$  and  $b$ , if  $x^2 - 4$  is a factor of  $ax^4 + 2x^3 - 3x^2 + bx - 4$ .

Q2. Find the values of a and b so that  $(x + 1)$  and  $(x - 1)$  are factors of  $x^4 + ax^3 + 3x^2 + 2x + b$ .

Q3. What must be subtracted from  $x^3 - 6x^2 - 15x + 80$  so that the result is exactly divisible by  $x^2 + x - 12$ ?

Q4. Find the factor of  $X^3 - 10x^2 - 53x - 42$ ?

Q5. Factorize :  $x^3 + 13x^2 + 31x - 45$  given that  $x + 9$  is a factor?

**CHAPTER 3 COORDINATE GEOMETRY**  
**SECTION A (ONE MARKS QUESTION)**

Q1. Find the distance of the point  $P(2, 3)$  from the x-axis?

Q2. Find the distance between the point  $P(1, 4)$  and  $Q(4, 0)$ ?

Q3. The points  $(-5, 1)$ ,  $(1, p)$  and  $(4, -2)$  are collinear, then find the value of  $p$ ?

Q4. Find the area of the triangle ABC with the vertices  $A(-5, 7)$ ,  $B(-4, -5)$  and  $C(4, 5)$ ?

Q5. Find the distance of the point  $(\alpha, \beta)$  from the origin?

Q6. The line segment joining the points  $(3, -1)$  and  $(-6, 5)$  is trisected. Find the coordinates of point of



trisection?

Q7. If  $(a/3, 4)$  is the mid-point of the segment joining the points  $P(-6, 5)$  and  $R(-2, 3)$ , then the value of 'a' ?

Q8. Find the coordinates of the centroid of a triangle whose vertices are  $(0, 6)$ ,  $(8, 12)$  and  $(8, 0)$ ?

Q9. If the points  $P(1, 2)$ ,  $B(0, 0)$  and  $C(a, b)$  are collinear, then find the relationship between a and b?

Q10. Write the value of abscissa of all the points lie on y-axis.

**SECTION B (TWO MARKS QUESTION)**

Q1. If the points  $A(x, 2)$ ,  $B(-3, 4)$  and  $C(7, -5)$  are collinear, then find the value of x.

Q2. ABCD is a rectangle whose three vertices are  $B(4, 0)$ ,  $C(4, 3)$  and  $D(0, 3)$ . Calculate the length of one of its diagonals.

Q3. Find the relation between x and y if the points  $A(x, y)$ ,  $B(-5, 7)$  and  $C(-4, 5)$  are collinear.

Q4. Draw the graph of the equation  $x - 2y = 4$  and verify its points?

Q5. Plot the point  $(0, 2)$ ,  $(2, 2)$ ,  $(2, 0)$  and draw the figure?

Q6. A point lies on x-axis at a distance of 9 units from y-axis. What are its coordinates? What will be the coordinates of a point, if it lies on y-axis at a distance of -9 units from x-axis ?

**SECTION C (THRE MARKS QUESTION)**

Q1. For what value of k will  $k + 9$ ,  $2k - 1$  and  $2k + 7$  are the consecutive terms of an A.P.?

Q2. In which quadrant the point P that divides the line segment joining the points  $A(2, -5)$  and  $B(5, 2)$  in the ratio  $2 : 3$  lies?

Q3. Find a relation between x and y such that the point  $P(x, y)$  is equidistant from the points  $A(2, 5)$  and  $B(-3, 7)$ .

Q4. Find the ratio in which the point  $P(3/4, 5/12)$  divides the line segment joining the points  $A(1/2, 3/2)$  and  $B(2, -5)$ .

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Q5. Draw the graph of the equation  $-2x + y - 7 = 0$  and check the point  $(-2, -3)$  lie on the line?

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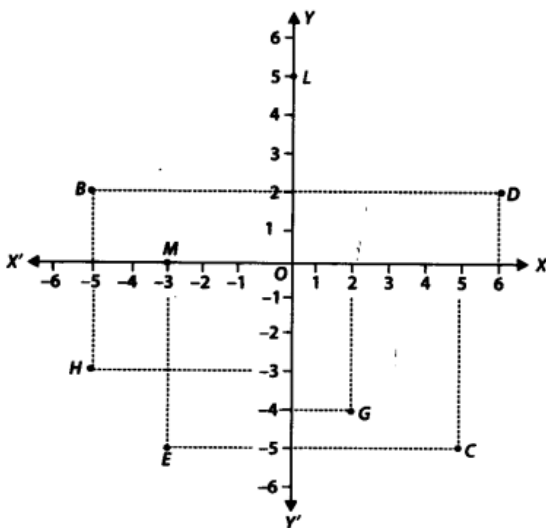
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**SECTION D (FOUR MARKS QUESTION)**

Q1. See the given figure and write the following:

- (i) The coordinates of B.
- (ii) The coordinates of C.
- (iii) The point identified by the coordinates  $(-3, -5)$ .
- (iv) The point identified by the coordinates  $(2, -4)$ .
- (v) The abscissa of the point D.
- (vi) The ordinate of the point H.
- (vii) The coordinates of the point L.
- (viii) The coordinates of the point M.



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Q2. In which quadrant or on which axis do each of the points  $(-2, 4), (3, -1), (-1, 0), (1, 2)$  and  $(-3, -5)$  lie? Verify your answer by locating them on the Cartesian plane.

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Q3. Plot the points  $(x, y)$  given in the following table on the plane, choosing suitable units of distance on the axes.

<b>x</b>	<b>-2</b>	<b>-1</b>	<b>0</b>	<b>1</b>	<b>3</b>
<b>y</b>	<b>8</b>	<b>7</b>	<b>-1.25</b>	<b>3</b>	<b>-1</b>

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Q4. Plot the following points, join them in order and identify the figure thus formed :  $A(1, 3)$ ,  $B(1, -1)$ ,  $C(7, -1)$  and  $D(7, 3)$   
Write the coordinates of the point of intersection of the diagonals.

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Q5. Plot the points  $A(2, 5)$ ,  $B(8,5)$  and  $C(5, -3)$  and join  $AB$ ,  $BC$  and  $CA$ . What figure do you obtain ?

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Q6. Plot the points  $A(3, 2)$ ,  $B(-2, 2)$ ,  $C(-2, -2)$  and  $D(3, -2)$  in the cartesian plane. Join these points and name the figure so formed.

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Q7. Write the coordinates of two points on X-axis and two points on Y-axis which are at equal distances from the origin. Connect all these points and make them as vertices of quadrilateral. Name the quadrilateral thus formed.

**CHAPTER 4 Linear Equation in Two Variable  
SECTION A (ONE MARKS QUESTION)**

Q1. Linear equation  $x - 2 = 0$  is parallel to which axis ?

Q2. If  $(1, -2)$  is a solution of the equation  $2x - y = p$ , then find the value of  $p$ .

Q3. Express  $x/4 - 3y = -7$  in the form of  $ax + by + c = 0$ .

Q4. Express  $x$  in term of  $y$  :  $x/7 + 2y = 6$ ?

Q5. Find the two solutions of the linear equation  $2x - 3y = 12$ .

Q6. If we multiply or divide both sides of a linear equation with a non-zero number, then what will happen to the solution of the linear equation ?

Q7. How many linear equations in  $x$  and  $y$  can be satisfied by  $x = 1$  and  $y = 2$ ?

Q8. Write the equation of a line which is parallel to x-axis and is at a distance of 2 units from the origin.

Q9. Find 'a', if linear equation  $3x - ay = 6$  has one solution as  $(4, 3)$ .

Q10. The cost of a notebook is Rs 5 less than twice the cost of a pen. Write this statement as a linear equation in two variables.

**SECTION B (TWO MARKS QUESTION)**

Q1. In some countries temperature is measured in Fahrenheit, whereas in countries like India it is measured in Celsius. Here is a linear equation that converts Fahrenheit to Celsius:  $F = \frac{9}{5}c + 32$ ?

Q2. Write linear equation representing a line which is parallel to y-axis and is at a distance of 2 units on the left side of y-axis.

Q3. Find the value of k, if (1, -1) is a solution of the equation  $3x - ky = 8$ . Also, find the coordinates of another point lying on its graph.

Q4. If  $(p, 2p + 1)$  is the solution of the linear equation  $4x + 3y = 23$ . Find the value of p.

Q5. Find the value of m, if (5,8) is a solution of the equation  $11x - 2y = 3m$ , then find one more solution of this equation.

Q6. If  $\pi x + 3y = 25$ , write y in terms of x and also, find the two solutions of this equation.

Q7. Find four solutions of  $2x - y = 4$ .

Q8. Give equation of two lines on same plane which are intersecting at the point (2, 3).

Q9. Let y varies directly as x. If  $y = 12$  when  $x = 4$ , then write a linear equation. What is the value of y, when  $x = 5$ ?

Q10. Give the equations of two lines passing through (2, 14). How many more such lines are there and why?

Q11. Cost of a pen is two and half times the cost of a pencil. Express this situation as a linear equation in two variables.

**SECTION C (THREE MARKS QUESTION)**

Q1. A fraction becomes  $\frac{1}{4}$  when 2 is subtracted from the numerator and 3 is added to the denominator. Represent this situation as a linear equation in two variables. Also, find two solutions for this.

Q2. Draw the graph of the linear equation  $y = \frac{2}{3}x + \frac{1}{3}$ . Check from the graph that (7, 5) is a solution of the linear equation.

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Q3. The cost of two pizzas and 1 burger is Rs 450. Represent this situation algebraically and also, draw the graph.

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Q4. Express y in terms of x for the equation  $3x - 4y + 7 = 0$ . Check whether the points (23, 4) and (0, 7/4) lie on the graph of this equation or not.

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Q5. Rupinder and Deepak two students of a vidyalaya contribute to charity. The Contribution of Rupinder is  $\frac{2}{5}$  of the contribution of Deepak. Write a linear equation According to the above statement and draw the graph for the linear equation.

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Q6. Express the following linear equations in the form  $ax + by + c = 0$  and indicate the values of a, b and c in each case:

- i)  $x = 3y$
  - ii)  $2x = -5y$
  - iii)  $3x + 2 = 0$
  - iv)  $y - 2 = 0$ .
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Q7. A fraction becomes  $\frac{1}{4}$  when 2 is subtracted from the numerator and 3 is added to the denominator. Represent this situation as a linear equation in two variables. Also, find two solutions for this.

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**SECTION D (FOUR MARKS QUESTION)**

Q1. You know that the force applied on a body is directly proportional to the acceleration produced in the body. Write an equation to express this situation and plot the graph of the equation, taking constant as 5, force on y-axis and acceleration on x-axis. Also, find acceleration produced in a body, if force applied on it is 20 units.

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Q2. Sum of two numbers is 8. Write this in the form of a linear equation in two variables. Also, draw the line given by this equation. Find graphically the numbers, if difference between them is 2.



(i) 2 units (ii) 0 unit.

(iii) In context of values, if work done relates with 'Hard work' and 'Knowledge' relates with 'key' then what will one achieve ?

Question.2 Lipsa and Mona are two students of IX class of DAV school. Together they contributed? 100 towards the old age home to help the old persons.

(i) Write a linear equation which satisfies the given data and draw the graph.

(ii) What values are depicted in their plan?

**HOTS**

Q1. Jamila sold a table and a chair for ₹ 1050, thereby making a profit of 10% on a table and 25% on the chair. If she had taken profit of 25% on the table and 10% on the chair she would have got ₹ 1065. Find the cost price of each.

Q2. The coach of a cricket team buys 7 bats and 6 balls for ₹ 3800. Later, he buys 3 bats and 5 balls for ₹ 1750. Find the cost of each bat and each ball.

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Q3. A lending library has a fixed charge for the first three days and an additional charge for each day thereafter. Saritha paid ₹ 27 for a book kept for seven days, while Susy paid ₹ 21 for the book she kept for five days. Find the fixed charge and the charge for each extra day.



Q4. One says, "Give me a hundred, friend! I shall then become twice as rich as you." The other replies, "If you give me ten, I shall be six times as rich as you." Tell me what is the amount of their respective capital?

Q5. On selling a T.V. at 5% gain and a fridge at 10% gain, a shopkeeper gains ₹ 2000. But if he sells the T.V. at 10% gain and the fridge at 5% loss. He gains ₹ 1500 on the transaction. Find the actual prices of T.V. and fridge.

Q6. Vijay had some bananas, and he divided them into two lots A and B. He sold first lot at the rate of ₹ 2 for 3 bananas and the second lot at the rate of ₹ 1 per banana and got a total of ₹ 400. If he had sold the first lot at the rate of ₹ 1 per banana and the second lot at the rate of ₹ 4 per five bananas, his total collection would have been ₹ 460. Find the total number of bananas he had.



**Q1.**What is the difference between 2H and H<sub>2</sub>? (2)

Ans.

**Q2.**The valency of an element A is 4. Write the formula of its oxide. (2)

Ans.

**Q3.**What does the symbol 'u' represent? (2)

Ans.

**Q4.**Name the compound  $Al_2(SO_4)_3$  and mention the ions present in it. (2)

Ans.

**Q5.**Identify the cations and anions in the following compounds: (4)

- (a) CH<sub>3</sub>COONa
- (b) NH<sub>3</sub>

Ans.

**Q6.**Write the cations and anions present (if any) in the following compounds: (4)

- (a) CH<sub>3</sub>COONa
- (b) NaCl

Ans.

**Q7.** $MNO_3$  is the formula of nitrate of metal M. Write the formula of its

oxide.

(3)

Ans.

Q8. What happens to an element 'A' if its atom gains two electrons?

(2)

Ans.

Q9. How many molecules of water are present in a drop of water which has a mass of 50 mg?

(3)

Ans.

Q10. Find the number of protons and neutrons in the nucleus of an atom of an element X which is represented as  $^{207}_{82}\text{X}$ .

(3)

Ans.

Q11. What is the difference between cation and anion?

(2)

Ans.

Q13. Write the formulae for the following and calculate the molecular mass for each one of them.

(3)

- (a) Baking powder
- (b) Lime stone
- (c) Caustic soda
- (d) Ethanol
- (e) Common salt.

Ans.

Project:

1. Prepare a power point presentation on Writing Chemical Formula of basic compounds.

Chapter 4 Structure of Atom

**Q1.** In response to a question, a student stated that in an atom, the number of protons is greater than the number of neutrons, which in turn is greater than the number of electrons. Do you agree with the statement? Justify your answer. (2)

Ans.

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**Q2.** Why do Helium, Neon and Argon have a zero valency? (2)

Ans.

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**Q3.** What are isobars? Give one example. (2)

Ans.

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**Q4.** What is the number of valence electron in (2)

- (i) Sodium ion ( $\text{Na}^+$ )
- (ii) Oxide ion ( $\text{O}^{2-}$ )?

Ans.

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**Q5.** The number of electrons in the outermost 'L' shell of an atom is 5. (3)

- (a) Write its electronic configuration.
- (b) What is its valency and why?

Ans.

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**Q6.** (i) Write the postulates of Bohr model of atom. (4)

(ii) Draw a sketch of Bohr model of an atom with atomic number 15.

Ans.

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**Q7.**Show diagrammatically the electron distributions in a sodium atom and a sodium ion and also given their atomic number.

(3)

Ans. \_\_\_\_\_

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**Q8.** The number of protons, neutrons and electrons in particles from A to E are given below: (3)

Particle	Protons	Neutrons	Electrons
A	17	18	17
B	3	4	2
C	18	22	18
D	17	20	17
E	9	10	10

Ans. Which one is a cation?

- (i) Which one is an anion?
  - (ii) Which represent pair of isotopes?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Q9.** Atom A has a mass number 238 and atomic number 92 and atom B has mass number 235 and atomic number 92. (3)

- (i) How many protons, atoms A and B have?
- (ii) How many neutrons, atoms A and B have?
- (iii) Are atoms A and B isotopes of the same element? How?

Ans. \_\_\_\_\_

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**Q10.** State three features of the nuclear model of an atom put forward by Rutherford. (3)

Ans. \_\_\_\_\_

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**Q11. Give reasons why?** (3)

- (a) Atom is electrically neutral.
- (b) Atom as a whole is an empty space.
- (c) Rutherford model of atom could not provide stability to the nucleus.

Ans. \_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_

**Q12. Write the complete symbol for** (3)

- (i) the nucleus with atomic number 56 and mass number 138.
- (ii) the nucleus with atomic number 26 and mass number 55.
- (iii) the nucleus with atomic number 4 and mass number 9.

Ans. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q13. The nuclear radius is of the order of  $10^{-13}$  cm while atomic radius is of the order  $10^{-8}$  cm. Assuming the nucleus and the atom to be spherical, what fraction of the atomic volume is occupied by the nucleus?** (3)

Ans. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q14. (a) Enlist the conclusions drawn by Rutherford from his a-ray scattering experiment.** (4)  
**(b) In what way is the Rutherford's atomic model different from that of Thomson's atomic model?**

Ans. \_\_\_\_\_  
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\_\_\_\_\_  
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**Q15. (a) What were the drawbacks of Rutherford's model of an atom?** (5)  
**(b) What are the postulates of Bohr's model of an atom?**

Ans. \_\_\_\_\_

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**Q16. Answer the following in one line or two** (4)

- (a) What is the maximum number of electrons that can be accommodated in the outermost energy shell in an atom?
- (b) On the basis of Thomson's model of an atom, explain how an atom is neutral as a whole.
- (c) How many neutrons are present in hydrogen atom?
- (d) Do isobars belong to the same element?

**Ans.**

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**Q17. (a) What are isobars?** (3)

**(b) The valency of Na is 1 and not 7. Give reason.**

**Ans.**

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**Q18. An atom of an element has 2 electrons in the M-shell i.e., third shell. What will be the atomic number of this element? Name this element. Find the valency of this element. Also, find the number of neutrons in the atom of this element.** (3)

**Ans.**

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## Projects:

1. Prepare 3D atomic Model given by Rutherford.
2. Prepare a model showing electron distribution and valency in first 20 atoms.

## WINTER HOLIDAY HOMEWORK Social Science CLASS -IX

Name: \_\_\_\_\_

Roll no: \_\_\_\_\_

### Q1. Project -

Every student has to compulsorily undertake one **Interdisciplinary Project** on topics suggested by CBSE from chapters natural vegetation and wildlife (Geography) and Forest society and colonialism (History) **Heading- Forest and their evolution (Natural vegetation in India and evolution of forest management in India) also Compare the vegetation found in Rajasthan with Nagaland (what factors affect this variation)**

**Objectives:** The main objectives of giving project work on interdisciplinary subject to the students are to:

- a. create awareness in them about different types of forest found in India.
  - b. prepare them in advance to mitigate the problems related to forests.
  - c. ensure their participation in understanding the evolution of forest and their management
  - d. enable them to create awareness and preparedness among the Community.
3. The project work should also help in enhancing the Life Skills of the students.
  4. If possible, different forms of **art may be integrated** in the project work.
  5. Add pictures, drawings, news reports, graphical presentation of researched data etc. (creativity has no bar)
  6. The distribution of marks over different aspects relating to Project Work is as follows

S. No.	Aspects	Marks
a	Content accuracy, originality and analysis	2
b	Presentation and creativity	2
c	Viva Voce	1

7. The project carried out by the students subsequently be shared among themselves through interactive sessions such as exhibitions, panel discussions, etc.
8. It is to be noted here by all students that the projects and models prepared should be made from eco- friendly products without incurring too much expenditure.
9. The Project Report should be handwritten by the students themselves.

### Q2. Write the answers of following questions in Homework Notebook-

1. Locate the following countries participated in First World War on World political Map-







## WINTER VACATION HOLIDAY HOMEWORK SUBJECT: INFORMATION TECHNOLOGY CLASS - IX

### Art Integrated Project: Creating PowerPoint Presentation

**Title: "Digital Discoveries: A Journey into ICT"**

**Objective:** Explore the world of Information and Communication Technology (ICT) and create an informative PowerPoint presentation to share your discoveries.

**Instructions:**

- Slide 1: Title Slide
- Slide 2: Introduction to ICT
- Slide 3: Components of ICT
- Slide 4: Types of ICT
- Slide 5: ICT in Everyday Life
- Slide 6: ICT in Education
- Slide 7: Emerging Technologies
- Slide 8: Future Trends
- Slide 9: Conclusion
- slide 10: References

- ✓ Students are free to use graphics, images with providing the reference of the sites that are used to download the images and other graphics.
- ✓ Students must add Animations and Transitions effects on their Presentation.
- ✓ Suggested font size is 12pt.
- ✓ Students can use different themes in their presentation
- ✓ Originality of the work will be appreciated.

**Note:** Students need to share the presentation on [bharat090171@bpsg.edu.in](mailto:bharat090171@bpsg.edu.in) email id.