

## ASSIGNMENT FOR CLASS 7

# ENGLISH

In each of the following sentences, supply a Verb in agreement with its Subject. The Verb to be used is given in brackets at the end of each sentence:

1. One of the pupils in our class \_\_\_\_\_ a car.  
(owns, own)
2. Ten kilometres \_\_\_\_\_ a long way to walk. (is, are)
3. None of the boys \_\_\_\_\_ bought their books yet. (has, have)
4. The cost of all these articles \_\_\_\_\_ risen. (has, have)
5. One of the workers \_\_\_\_\_ killed in the explosion. (was, were)
6. Most of the workers \_\_\_\_\_ still under suspension. (is, are)
7. Each of these minerals \_\_\_\_\_ found in India. (is, are)
8. No sound but their own voices \_\_\_\_\_ heard. (was, were)
9. Marathi, as well as English, \_\_\_\_\_ taught in our school. (is, are)
10. Every shop and every restaurant \_\_\_\_\_ closed. (was, were)
11. Many an attempt \_\_\_\_\_ been made to climb Everest. (has, have)
12. Twenty thousand rupees \_\_\_\_\_ a large sum of money. (is, are)
13. One of his sisters \_\_\_\_\_ studying in College. (is, are)
14. Vegetable prices \_\_\_\_\_ gone up. (has, have)
15. Neither of the two girls \_\_\_\_\_ eligible for the scholarship. (is, are)



Fill in each blank with one of the two Verbs given in brackets:

1. Not one of her children \_\_\_\_\_ intelligent. (is, are)

2. A knowledge of modern languages \_\_\_\_\_ essential. (is, are)

3. Neither of the explanations \_\_\_\_\_ correct. (is, are)

4. A large number of people \_\_\_\_\_ killed in the riots. (was, were)

5. The long and the short of the matter \_\_\_\_\_ this. (is, are)

6. Half of the cake \_\_\_\_\_ already eaten. (is, are)

7. A list of weak boys in our class \_\_\_\_\_ been prepared. (has, have)

8. This is the only one of his novels that \_\_\_\_\_ worth reading. (is, are)

9. Raman and not you \_\_\_\_\_ won the prize. (has, have)

10. She is one of the noblest women that \_\_\_\_\_ ever lived. (has, have)

11. The dacoit, with his followers, \_\_\_\_\_ shot dead. (was, were)

12. Neither the boy nor his brother \_\_\_\_\_ to blame. (is, are)

13. Kindness as well as justice \_\_\_\_\_ this. (requires, require)

14. Bread and butter \_\_\_\_\_ his favourite food. (is, are)

15. The majority of voters \_\_\_\_\_ not know the value of their votes. (does, do)



201 (16) Say which word is correct. Underline it:

1. All the mice {is/are} dead.
2. All the rice in this bag {is/are} of good quality.
3. Much of the {works/work} in our school {is/are} very easy.
4. One or other of those fellows {has/have} stolen the ring.
5. There {was/were} present Mr. Dey, Mrs. Jones, and Miss Mary at the meeting.
6. Each {soldier/soldiers} {was/were} present at {his, their} post.
7. Few {man/men} {is/are} able to do {his/their} own cooking.
8. Either of these girls {is/are} allowed to write {her/their} name.
9. Neither of these boys {was/were} present then.
10. Several of these boys {was/were} not able to do this sum.
11. One of these {man/men} {comes/come} here daily.
12. I have {much/many} {book/books} in this box, but not one of them {is/are} interesting.

13. We have enough {egg/eggs} here, but {is/are} there enough plates?
14. Everybody in the senior classes of all schools in all countries {has/have} to learn more than one {language/languages}.
15. There {was/were} not many people present, but everyone {was/were} carrying a sword.



Complete the following sentences, using 'is' or 'are':

1. All the students of this class are going to take the test.
2. Both Mary and Tom are fond of music.
3. Mathematics is my favourite subject.
4. Measles is an infectious disease.
5. Are either of these pens yours?
6. The news is too good to be true.
7. A hundred pounds is not a lot of money today.
8. The herd of horses is worth a lot of money.
9. Either George or Peter is going to accompany us.
10. The pair of scissors is not very sharp.
11. This knife is very sharp.
12. The police is looking for you.
13. My trousers are torn.
14. None of the students is standing.
15. Neither of the teachers is in the classroom.
16. The Outcastes is a good movie.
17. The mother of these children is not rich.
18. Politics is his main interest.
19. Physics is an interesting subject to study.
20. Everyone of these things is new.



Fill in the blanks with the correct tenses of the Verbs in brackets. Use Simple Present or Present Continuous Tense only:

1. He generally \_\_\_\_\_ Hindi, but he \_\_\_\_\_ English today. (speak)
2. The telephone bell \_\_\_\_\_ again. It sometimes \_\_\_\_\_ thirty times a day. (ring)
3. Ashok \_\_\_\_\_ his homework now. He usually \_\_\_\_\_ it at night. (do)
4. Harry \_\_\_\_\_ football well. He \_\_\_\_\_ in the first eleven this season. (play)
5. He generally \_\_\_\_\_ a blue suit, but today he \_\_\_\_\_ a brown one. (wear)
6. Mr. Bali \_\_\_\_\_ too much. Every time I see him he \_\_\_\_\_ (smoke)
7. "What \_\_\_\_\_ you \_\_\_\_\_ this evening?" (do)  
"I \_\_\_\_\_ at home." (stay)
8. Ashok says in this letter that he \_\_\_\_\_ his holidays. (enjoy)

9. Where \_\_\_\_\_ you \_\_\_\_\_ to spend your holidays this summer? (go)
10. She \_\_\_\_\_ now. (She regularly \_\_\_\_\_ in the afternoon. (knit)
11. She \_\_\_\_\_ some fish at the moment. (fry) She \_\_\_\_\_ (not like) fish but her husband \_\_\_\_\_ it. (love)
12. I shall tell her the news as soon as I \_\_\_\_\_ her. (see)
13. The man who \_\_\_\_\_ (talk) to Tom at the moment \_\_\_\_\_ (speak) seven languages.
14. What \_\_\_\_\_ you \_\_\_\_\_ about? (think) You \_\_\_\_\_ rather worried. (look)
15. He generally \_\_\_\_\_ very well but today he \_\_\_\_\_ very badly. (play)
16. Whenever I \_\_\_\_\_ (meet) him in the street, he \_\_\_\_\_ (try) to avoid me.
17. Peter \_\_\_\_\_ the violin very well. Now he \_\_\_\_\_ the piano. (play)
18. He always \_\_\_\_\_ (talk) to me in English but he \_\_\_\_\_ (use) French now.
19. He usually \_\_\_\_\_ a pipe but he \_\_\_\_\_ a cigar now. (smoke)
20. My mother usually \_\_\_\_\_ coffee but she \_\_\_\_\_ tea now. (drink)



Fill in the blanks with the correct tenses of the Verbs in brackets. Use the Simple Present Tense or the Present Continuous Tense only:

1. On my way to school I usually meet (meet) people who go (go) to their work.
2. The sun rises (rises) in the east; now it sets (set).
3. He is not listening (not to listen) now; he looks (look) out of the window.
4. Newspapers tell (tell) us about events that happen (happen) in all parts of the world.

5. She generally wears (wear) a blue sari; but today she wears (wear) a red one.
6. When it rains (rain) people usually stay (stay) indoors.
7. He reads (read) the newspaper that he usually reads (read).
8. When water freezes (freeze), it changes (change) into ice.
9. "What does (do) he do (do) for a living?" "He buys (buy) and sells (sell) old furniture."
10. It usually rains (rain) in July. It rains (rain) now.
11. "Where do (go) you go (go) now?" "I go (go) to the theatre."
12. "Where are you, Mary?" "I sit (sit) in the drawing-room." "What do (do) you do (do) there?" "I watch (watch) the television."
13. He always sleeps (sleep) in the afternoon; he sleeps (sleep) now.
14. He usually walks (walk) from his home to the office but this week he goes (go) by tram.
15. "Raman comes (come) to see me this evening. Perhaps he needs (need) my advice."
16. "Our teacher seldom sits (sit) when he teaches (teach). I wonder why he doesn't feel (not feel) well." "He sits (sit) today. Perhaps he feels (feel) well."
17. They generally spend (spend) their holidays in the hills, but this year they stay (stay) at home.
18. I don't watch (not watch) television whenever I can, but I (watch) but I don't see (not see) anything worth seeing tonight because there's nothing (nothing) worth seeing.
19. "I hear (hear) you are going to (leave) India shortly." "Yes, I am going to (go) to the United States. I expect (expect) to stay there for about two months."
20. That man who lives (live) next door walks (walk) past the window



It is not always easy in company to speak frankly and if you don't want be considered an ill mannered person, you have to watch constantly for signs. It is not easy, for example, to listen for long to any person. Try in company to take only a fair share of the conversation. If there are two of you, take half of it. When you have said a little, keep quiet and give your friend a chance to say something. If he does not talk, he and everyone is really exhausted and angry. Don't think you can say unpleasant things about someone behind his back and not be found out. It is surprising how the remarks usually find their way to the person with your name attached, so to speak. Whatever you say, always assume, that the person may overhear, and modify your remarks accordingly. All experienced people act in this way.

### Questions

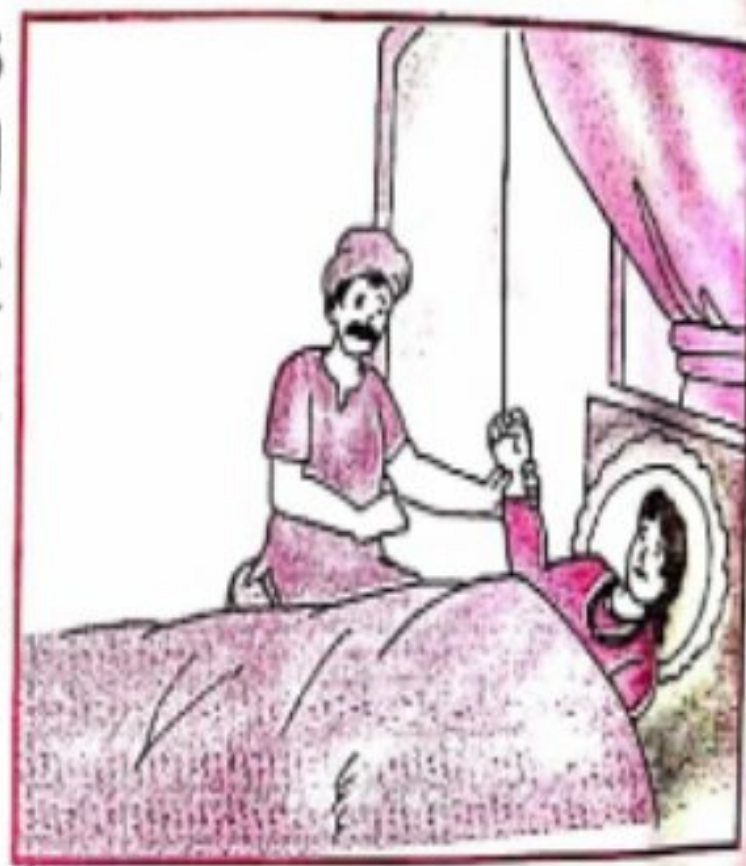
- (i) Suggest a suitable heading for the passage.
- (ii) Mention two characteristics which belong to an ill mannered person.
- (iii) What good manners should you observe when you are in company?
- (iv) Why shouldn't one say unpleasant things about someone behind his back?
- (v) What is foolish about the behaviour of a young man or woman who "talks away" all the time?
- (vi) Give the meaning of:  
(a) considered      (b) constantly      (c) exhausted

Write short paragraphs on the following subjects:

1. My Favourite Dress. (Any 4)
2. The Things I Do Not Like.
3. Honest Means of Livelihood.
4. A School Excursion.
5. My Daily Programme.
6. The Neighbour I Dislike the Most.



A certain king once fell ill and doctors declared that only a sudden fright would restore him to health but the king was not a man for anyone to play tricks on, except his fool. One day, when the fool was with him in his boat, he cleverly pushed the king into the water. Help had already been arranged and the king was drawn ashore



and put to bed. The fright, the bath and the rest in bed cured the diseased king; but he was so angry with the fool that he turned him out of the country. The fool returned, however, and the king ordered him to be put to death. Saying privately that he would only repay fright with fright, he directed the executioner not to use the axe but to let fall a single drop of water on the fool's neck. The fool was led to the gallows. The executioner dropped a drop of water on the fool's neck, and amidst shouts and laughter, the fool was asked to rise and thank the king for his kindness. But the fool never moved; he was dead, killed by his master's joke.

### Questions

- (i) How could the sick king be cured?
- (ii) Who alone could afford to play tricks on the king and why?
- (iii) What did the fool do in the boat?
- (iv) What cured the sick king?
- (v) Why did the king turn the fool out of his country?
- (vi) How did the fool meet his end?
- (vii) Did the king really want the fool to die?
- (viii) Pick out expressions used in the passage which mean the same as:



# MATHS

Class-VII

Date: \_\_\_\_\_  
Page No. \_\_\_\_\_

Sub: Maths      Topic: Fractions and decimals

Q1. Convert the following into fractions in their lowest terms:

- (i) 3.75
- (ii) 0.5
- (iii) 2.04
- (iv) 0.65
- (v) 2.405
- (vi) 0.085
- (vii) 8.025

Q2. Convert into decimal fractions

- (i)  $2\frac{4}{5}$
- (ii)  $\frac{79}{100}$
- (iii)  $\frac{37}{10,000}$
- (iv)  $\frac{7543}{10^4}$
- (v)  $\frac{3}{4}$
- (vi)  $9\frac{3}{5}$

Q3. Add:

- (i) 0.5 and 0.37
- (ii) 3.8 and 8.7
- (iii) 0.02, 0.008 and 0.309
- (iv) 0.4136, 0.3195 and 0.52
- (v) 9.25, 3.4 and 6.666
- (vi) 3.007, 0.587 and 18.341
- (vii) 0.2, 0.02 and 2.0002
- (viii) 6.08, 60.8, 0.608 and 0.0608



(ix) 29.03, 0.0003, 0.3 and 7.2

(x) 3.4, 2.025, 9.36 and 3.6221.

Q4. Subtract the first numbers from the second:

(i) 5.4, 9.8

(ii) 0.16, 4.3

(iii) 0.82, 8.6

(iv) 0.07, 8.43

(v) 2.237, 9.425

(vi) 41.03, 59.46

(vii) 3.92, 26.86

(viii) 4.73, 8.5

(ix) 12.63, 36.2

(x) 0.845, 3.71

Q5. Simplify:

(i)  $28.796 - 13.42 - 2.555$

(ii)  $93.354 - 62.82 - 13.045$

(iii)  $36 - 18.59 - 3.2$

(iv)  $86 + 16.95 - 3.0042$

(v)  $32.8 - 13 - 10.725 + 3.517$

(vi)  $4000 - 30.51 - 753.101 - 69.43$

(vii)  $0.1835 + 163.2005 - 25.9 - 100$

(viii)  $38.00 - 30 + 200.200 - 0.230$

(ix)  $555.555 + 55.555 - 5.55 - 0.555$ .



# मानक हिंदी

Date: / /

## हिंदी व्याकरण

1. पर्यायवाची शब्द - 1 से 30 तक
2. अनेकार्थी शब्द - 1 से 30 तक
3. सम-भुत भिन्नार्थक शब्द - 1 से 25 तक
4. विलोम शब्द - 1 से 50 तक
5. अनेक शब्दों के लिए एक शब्द - 1 से 30 तक
6. एकार्थी प्रतीत होने वाले शब्द - 1 से 20 तक

उपर्युक्त कार्य हिंदी भाषा की पुस्तक  
से रफ-कॉपी में लिखें एवं याद करें।



कक्षा - 6

हिन्दी व्याकरण

नीचे दिए गए कार्य प्रपत्रों को ध्यानपूर्वक  
पढ़कर उन्हें हल करें।  
सभी कार्य रफ कॉपी में करें।

Dr



4. 'सेना' शब्द किस संज्ञा के अंतर्गत आता है?

- (क) जातिवाचक संज्ञा (ख) समूहवाचक संज्ञा  
(ग) व्यक्तिवाचक संज्ञा (घ) उपरोक्त सभी गलत हैं

5. 'इन्हीं जयचंदों के कारण देश पराधीन हुआ' इस वाक्य में आया 'जयचंद' किस संज्ञा का भेद है?

- (क) व्यक्तिवाचक संज्ञा (ख) जातिवाचक संज्ञा  
(ग) समूहवाचक संज्ञा (घ) सभी गलत हैं।

रिक्त स्थानों की पूर्ति उचित संज्ञा शब्दों द्वारा करते हुए प्रयुक्त संज्ञा के भेद का नाम भी लिखिए :

1. मेरा मन \_\_\_\_\_ से भरा है।  
2. पौधे पर \_\_\_\_\_ आ गए हैं।  
3. बगीचे में एक \_\_\_\_\_ चहचहा रही है।  
4. तुम्हारी \_\_\_\_\_ में अच्छी बातें लिखी हैं।  
5. \_\_\_\_\_ आकाश में चमक रहा है।

कोष्ठक में दिए गए शब्दों से उचित भाववाचक संज्ञाएँ बनाते हुए रिक्त स्थानों की पूर्ति कीजिए :

1. आजकल बुजुर्गों का मन \_\_\_\_\_ से भरा रहता है। (उदास)  
2. चिड़िया को \_\_\_\_\_ लगी है। (प्यासी)  
3. बगीचे में \_\_\_\_\_ है। (हरा)  
4. सभी \_\_\_\_\_ चाहते हैं। (सफल)  
5. हमें दूसरों की \_\_\_\_\_ नहीं करनी चाहिए। (बुरा)

निम्नलिखित अंश में आई संज्ञाएँ रेखांकित कीजिए तथा नीचे उनको उनके घर में जगह दीजिए :

आज आकाश की नीलिमा मन को भा रही है। सुबह उठते ही जब इसे देखा तो हृदय खिल उठा। दादा जी को उठाया और हम दोनों सैर को निकल पड़े। सूरज के आते ही चाँद-सितारे सब चले गए। पौधों पर फूल महक रहे हैं। हमारी खुशी का ठिकाना नहीं है। आप किस चिंता में डूबे हैं? छोड़िए बिस्तर और चले आइए, हम आपकी दोस्ती चाहते हैं।

व्यक्तिवाचक

जातिवाचक

भाववाचक



एक शब्द द्वारा रिक्त स्थान भरिए :

- (1) धार हमारे देश की \_\_\_\_\_ है। वहाँ रेत-ही-रेत है।
- (2) हमें दूर की सोच रखनी चाहिए। हमें \_\_\_\_\_ होना चाहिए।
- (3) राम \_\_\_\_\_ हैं उनकी उपमा नहीं दी जा सकती।
- (4) खोज करनेवाले को \_\_\_\_\_ कहा जाता है।
- (5) राधा बहुत अधिक बोलती है। वह \_\_\_\_\_ है।

निम्नलिखित अनेक शब्दों को उनके उपयुक्त एक शब्द के साथ जोड़कर जोड़े बनाइए :

- |                            |          |
|----------------------------|----------|
| (1) जिसकी उपमा न दी जा सके | जलचर     |
| (2) जो मीठा बोले           | मितव्ययी |
| (3) जन्म से अंधा           | निष्कपट  |
| (4) कम खर्च करनेवाला       | अनुपम    |
| (5) जो जल में रहता है      | मृदुभाषी |
| (6) जिसके मन में कपट न हो  | जन्मांध  |

निम्नलिखित अनेक शब्दों के लिए एक शब्द लिखिए :

- |                           |   |       |
|---------------------------|---|-------|
| (1) जो परिचित न हो        | - | _____ |
| (2) जिसका आचरण अच्छा हो   | - | _____ |
| (3) जिसका विवाह हो गया हो | - | _____ |
| (4) एक ही जाति के लोग     | - | _____ |
| (5) जिसका नाम न हो        | - | _____ |
| (6) जिसका आधार न हो       | - | _____ |

निम्नलिखित शब्द-समूहों में से सही शब्द अलग कीजिए :

- |                               |   |                          |       |
|-------------------------------|---|--------------------------|-------|
| (1) जिसकी उपमा न दी जा सके    | - | उपमाहीन, उपमारहित, अनुपम | _____ |
| (2) रात में विचरण करनेवाला    | - | निशाचर, रात्रिचर, पिशाच  | _____ |
| (3) साहित्य से संबंध रखनेवाला | - | कवि, लेखक, साहित्यिक     | _____ |
| (4) नगर में रहनेवाला          | - | नगरीय, शहरी, नागरिक      | _____ |



निम्नलिखित शब्दों के विलोम लिखकर उन्हें वाक्यों में प्रयोग कीजिए :

शब्द	विलोम	वाक्य
विनाश	-	_____
ज्ञानी	-	_____
सुस्त	-	_____
प्रतिकूल	-	_____
बंधन	-	_____

निम्नलिखित शब्दों के विलोम शब्द लिखिए :

भारी	X	_____	गहरा	X	_____
ठोस	X	_____	मीठा	X	_____
नख	X	_____	हर्ष	X	_____
उत्थान	X	_____	खेद	X	_____

नीचे लिखे शब्दों में से विपरीतार्थक शब्दों के जोड़े बनाइए :

साफ़	अपयश
गुप्त	व्यय
आशा	गंदा
आदर	अभेद
उत्तम	निराशा
यश	प्रकट
भेद	अधम
आय	निरादर

रंगीन शब्दों के विलोम शब्दों द्वारा रिक्त स्थान भरिए :

- पेड़ सजीव होते हैं उन्हें \_\_\_\_\_ समझकर मत काटिए।
- दोस्ती सज्जन से करनी चाहिए \_\_\_\_\_ से नहीं।
- अच्छे व्यवहार से पराया भी \_\_\_\_\_ बन जाता है।
- आज नकद कल \_\_\_\_\_ ।
- सच बोलना \_\_\_\_\_ है। \_\_\_\_\_ बोलना पाप।



निम्नलिखित वाक्यों में सही शब्दों का प्रयोग करके दोबारा लिखिए :

1. वह बान चलाना सीख रहा है।
2. रोगी को समय पर हल्का पथ देना चाहिए।
3. शाम होते ही पक्षी अपने-अपने नीर में चले जाते हैं।
4. दिन में दो बार भोजन अवश्य करना चाहिए।
5. बहती हवा पावन कहलाती है।
6. हमें दृष्टि अपने लक्ष पर रखनी चाहिए।
7. धृतराष्ट्र ने भीम को अपने बाहु पास में भर लिया।
8. सबकी समिति से यह निर्णय लिया गया है।
9. अब किसकी बली चढ़नेवाली है।
10. कोई अन्न घोड़ा लाओ।

निम्नलिखित शब्दों के अर्थ लिखिए :

- |         |       |           |       |
|---------|-------|-----------|-------|
| 1. नग   | _____ | 2. प्रणाम | _____ |
| नाग     | _____ | प्रमाण    | _____ |
| 3. पाश  | _____ | 4. कुल    | _____ |
| पास     | _____ | कूल       | _____ |
| 5. दिशा | _____ | 6. नीर    | _____ |
| दशा     | _____ | नीड़      | _____ |
| 7. शोक  | _____ | 8. बान    | _____ |
| शौक     | _____ | बाण       | _____ |



सदा पुल्लिंग रूप में प्रयोग होनेवाले तीन शब्द लिखिए :

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

निम्नलिखित वाक्यों में रंगीन शब्दों के विषय में बताइए कि वे स्त्रीलिंग हैं या पुल्लिंग :

- |  |       |       |
|--|-------|-------|
| 1. पर्वत पर बादल मँडराए हैं।               | _____ | _____ |
| 2. सरकार की कार चल रही है।                 | _____ | _____ |
| 3. हमें तुम्हारी हमदर्दी नहीं चाहिए।       | _____ | _____ |
| 4. नदी पर बना पुल टूट रहा है।              | _____ | _____ |
| 5. मुझे दफ्तर जाकर बाबू से कागज़ लेने हैं। | _____ | _____ |

नीचे लिखे वाक्यों में रंगीन शब्दों के लिंग बदलकर रिक्त स्थानों की पूर्ति कीजिए :

1. पड़ोस में पति \_\_\_\_\_ की तकरार से उनका घर टूट गया है।
2. हमारे विद्यालय के अध्यापक \_\_\_\_\_ बच्चों का ध्यान रखते हैं।
3. कुम्हार \_\_\_\_\_ मिलकर बरतन बनाते हैं।
4. आप उस सम्राट की \_\_\_\_\_ को नहीं जानते।
5. मेरे माता \_\_\_\_\_ में कभी झगड़ा नहीं होता।
6. हम भाई \_\_\_\_\_ आपस में प्यार से रहते हैं।

नीचे लिखे शब्दों के एक से अधिक संभावित विपरीतलिंगी शब्द दिए गए हैं। उचित जोड़ा खोजिए :

अनुजा	-	अनुज, अग्रज, आत्मज
धोबी	-	धुलाई, धोबिन, धूल
कवि	-	काव्य, कविता, कवयित्री
सेठ	-	सेठाइन, सेठानी, सेठिन
दाता	-	देती, दात्री, दात्रा
राजा	-	सम्राज्ञी, बेगम, रानी

निम्नलिखित पुल्लिंग और स्त्रीलिंग शब्दों का वाक्यों में प्रयोग कीजिए :

धोबी	_____
धोबिन	_____
साधू	_____
साध्वी	_____
सास	_____
ससुर	_____



# PHYSICS

Subject - Physics

Class - VII

Date : / /

Read pages 25 to 31 of Chapter -2 (Motion) and answer the following questions.

- Q.1) Define the term weight and state its S.I unit.
- Q.2) Which quantity : mass or weight, does not change by change of place?
- Q.3) How do you determine the average speed of a body in non-uniform motion?
- Q.4) State three differences between mass and weight.
- Q.5) A car covers a distance of 160 Km between two cities in 4h. What is the average speed of the car?
- Q.6) On earth the weight of a body of mass 1.0 Kg is 10N. What will be the weight of a boy of mass 37 Kg in (a) Kg-f (b) N?
- Q.7) What is uniform motion? Give one example.
- Q.8) Differentiate between periodic and non-periodic motions by giving an example of each.



# BIOLOGY

classmate  
Date \_\_\_\_\_  
Page \_\_\_\_\_

## Biology [Class - 7]

→ Do all the questions in Rough Notebook -

### Chapter - 4 [Respiration].

- Q.1 Explain why a land plant may die if its roots remain water logged for a long time.
- Q.2 Describe the process of ~~the~~ respiration in stem and leaves.
- Q.3 What type of respiration takes place in Yeast and in humans?
- Q.4 Differentiate between the following -  
(a) Aerobic and anaerobic respiration  
(b) Respiration and photosynthesis  
(c) Stomata and lenticels.
- Q.5 Draw a well-labelled diagram of human <sup>human</sup> respiratory system.
- Q.6 Name a few diseases associated with <sup>human</sup> Respiratory system.
- Q.7 Respiration is a continuous process and is essential for the survival of plants, Explain.



# CHEMISTRY

## Chapter 4 Atomic Structure

Please copy the given notes in your chemistry exercise notebook. Untidy and carelessly done work shall not be accepted.



## Atomic structure

Aim: To make the students aware of the structure of atom & its contents

Important topics of the chapter:

- Atom and atomic structure
- ~~Sub~~ Sub-atomic particles of ~~an~~ an atom:  
Electrons, Protons & Neutrons
- Discovery of electrons, protons and neutrons
- Modern periodic table
- Molecules
  - └ Molecule of an element
  - └ Molecule of a compound
- Atomicity
- Radicals and Ions
- Valency
- Chemical formula and chemical equations.



### Introduction :

- An atom is the basic and smallest unit of a matter
- An atom has three subatomic particles:
  - Electrons - (-)vely charged particles
  - Protons - (+)vely charged particles
  - Neutrons - Particles carrying no charge.

### STRUCTURE OF ATOM

- The structure of atom was first studied by John Dalton & the postulates represented as Dalton's atomic theory.
- Later, the Modern atomic theory was seen to contradict Dalton's atomic theory.

Contents of an atom (Sub-atomic particles)	Discoverers
Electrons	J. J. Thomson [1897]
Protons	Goldstein [1898]
Neutrons	James Chadwick [1932]
Atomic nucleus	Rutherford [1911]



MOLECULES

Atoms of the same elements or different elements that combine together to form a molecule.

- Molecule of an element:

A molecule of an element is formed from the same kind of atoms.

Elements of same kind	Molecule of elements
<ul style="list-style-type: none"> <li>• Hydrogen atom</li> </ul>	Hydrogen molecule $H_2$
<ul style="list-style-type: none"> <li>• Nitrogen atom</li> </ul>	Nitrogen molecule $N_2$

- Molecule of a compound: A molecule of a compound is formed from different kind of atoms.

Elements of different kinds	Molecule of compound
Hydrogen [2 atoms] and Oxygen [1 atom]	$H_2O$ molecule



## ATOMICITY

It is the number of atoms present in a molecule of an element

### 1. MONOATOMIC MOLECULE:

A molecule of an element <sup>having</sup> composed of only one atom is called a monoatomic molecule

Ex - He, Ne, K, Na etc.

### 2. DIATOMIC MOLECULE:

A molecule of an element composed of two atoms is known as a diatomic molecule

Ex -  $H_2$ ,  $O_2$ ,  $N_2$  etc.

### 3. TRIATOMIC MOLECULE:

A molecule of an element composed of three atoms is known as a triatomic molecule.

Ex -  $O_3$  [ozone]

### 4. POLYATOMIC MOLECULE:

A molecule of an element composed of more than three atoms is known as a polyatomic molecule

Ex - Phosphorus [ $P_4$ ]

Sulphur [ $S_8$ ]

SV

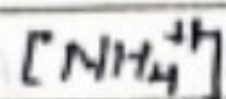


## RADICAL

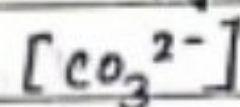
A radical is a single atom or a group of atoms of different elements behaving as a single unit and with a charge on the group.

Example -

Ammonium



Carbonate

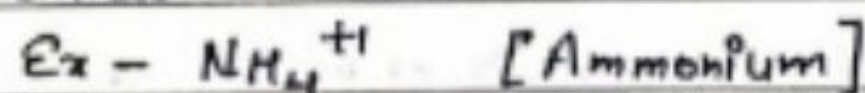


### TYPES OF RADICALS

Radicals are of two types

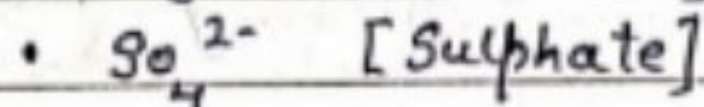
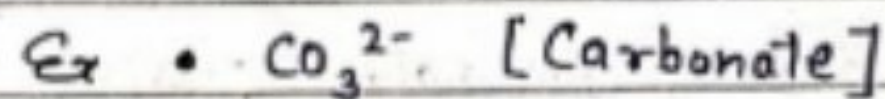
- Positive radical →

It is a radical which behaves like a metal in a chemical reaction



- Negative radical →

It is a radical which behaves like a non-metal in a chemical reaction





## • CHEMICAL FORMULA

It is the representation of a substance by means of symbols.

It represents the elements which are present in the compound.

It also denotes the number of each atoms of each element present.

Substance	Symbols	No. of atoms of each element present	Chemical formula
Sodium chloride	Na and Cl	1 atom of chlorine 1 atom of sodium	NaCl

### Method of writing the chemical formula of a compound:

To write the chemical formula of a compound we should know the following:

- Symbol of the element
- Valency of the element

Step I: Write the symbol with its valency

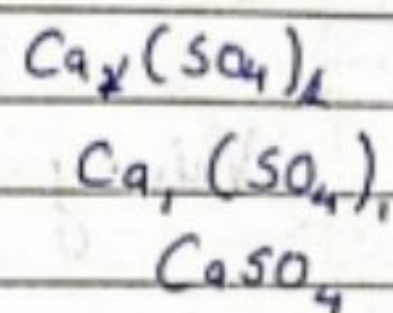
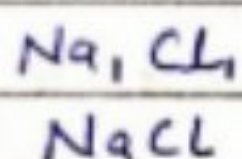
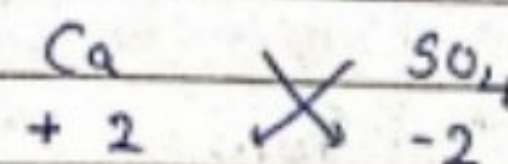
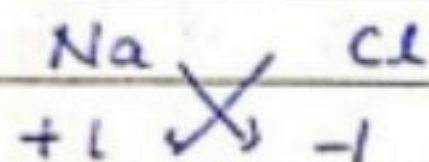
Step II: Interchange the valencies



Step III: Remove any common factor in valency & ignore the charge

Ex - • Sodium chloride

• Calcium sulphate



### • CHEMICAL EQUATIONS

- A chemical equation is the representation of a chemical reaction (or chemical change) through the symbols and formulas of the reactants and products.
- It is a shorthand form representing the result of a chemical change.

Representation of a chemical reaction equation:



Here, NaOH & HCl are reactants  
NaCl and H<sub>2</sub>O are products

' $\longrightarrow$ ' represents the direction of the reaction



# HISTORY

## Read chapter 2 and answer the given questions

### **B. Answer the following questions in detail :**

1. When and where was Muhammad born ? Explain in detail why AD 622 is important for all Muslims.
2. Explain in short the five pillars of Islam.
3. Who succeeded Muhammad and how ? Name and write about the three sects of Islam.
4. State the central teachings of Islam. Which one of these teachings appealed to you most ? Why ?
5. How did Islam spread through trade ?
6. Explain the expansion of Islam under the Umayyad and Abbasid.



# END OF ASSIGNMENT

DEHRADUN WORLD SCHOOL