CHAPTER 19
The Infinitive

Exercise-1

Pick out the Infinitive in each of the sentences and say how it is used:

1. *to see:* used as a qualifying infinitive: qualifies the verb 'have come'.
2. *to drink:* used as a qualifying infinitive: qualifies the noun 'water'.
3. *to live:* used as a qualifying infinitive: qualifies the verb 'eat'.
4. *to read:* noun infinitive : used as the subject of the sentence.
5. *to play:* noun infinitive : used as the object of 'like'.
6. *to err:* qualifying infinitive : qualifies the adjective 'human'.
7. *to learn :* qualifying infinitive: qualifies the adjective 'anxious'.
8. *sing:* qualifying infinitive: qualifies the verb 'heard'.
9. *to advise:* qualifying infinitive: qualifies the adjective 'easy'.
10. *to help:* qualifying infinitive: qualifies the adjective 'willing'.
11. *to tell the truth:* qualifying infinitive: qualifies the sentence.
12. *to win:* qualifying infinitive: qualifies the verb 'wish'.
13. *to sit:* qualifying infinitive: qualifies the noun 'chair'.
14. *to accept:* qualifying infinitive: qualifies the adjective 'honest'.
15. *to be:* noun infinitive: functions as the complement to the verb 'appears'.
16. *to obey:* noun infinitive: functions as the object of a preposition.
17. *to eat:* qualifying infinitive: qualifies 'something'.
18. *learn:* qualifying infinitive: qualifies the verb 'helped'.
19. *to leave:* noun infinitive: functions as the object of the preposition 'about'.
20. *to go:* qualifying infinitive: qualifies the verb 'was told'.

Exercise-2

Combine the following pairs of sentences by using Infinitives :

1. They worked hard to earn.
2. He was sensible enough to do the right thing.
3. The problem is too difficult for the students to solve.
4. The lesson is too long to be finished today.
5. The school appoints Ram to teach Geography.
6. We go to a cinema hall to see a movie.
7. To tell it frankly, I have no interest in business.
8. These men held a meeting to select a manager for this fac
9. The man took out a knife to frighten all of us.
10. To collect old stamps is Pratima's hobby.

CHAPTER 20
The Participle

Exercise-1

Pick out the Participle in each of the sentences. Tell whether it is a Present or Past Participle, and how it is used.

1. *Seeing:* present participle: used to express an earlier action of the same subject.
2. *Being disappointed:* present participle, passive; qualifies the pronoun 'he', used to express an earlier action of the same subject.
3. *haunted:* past participle : used as an adjective, qualifies 'house', used attributively.
4. *rolling:* present participle: used as an adjective, qualifies 'stone', used attributively.
5. *Being occupied:* present participle, passive: qualifies the pronoun 'he', used to express an earlier action of the same subject.
6. *being closed:* present participle, passive: qualifies 'shops', used to form an absolute phrase.
7. *Irritated:* past participle: used to express an earlier action.
8. *transferred:* past participle: used as part of an adjective phrase put after the noun 'collector' it qualifes.
9. *arriving;* present participle: used as part of an adjective phrase put after the noun 'train' it qualifies.
10. *Having finished:* perfect participle, active: used to express an earlier action of the same subject.
11. *being fine:* present participle: used to form an absolute phrase.
12. *crying:* present participle: used as object complement of 'child'.
13. *Killed:* past participle: used as object complement of 'lion'.
14. *Seizing:* present participle: used to qualify the noun 'people'.
15. *Taking:* present participle: used to express one of the actions of

the same subject 'he'.

Exercise-2

Combine the following pairs of sentences by making use of Participles:

1. Starting in the morning, we arrived at midnight.
2. We met a boy carrying a heavy bag.
3. Taking pity upon him, I gave him some money.
4. Decorated with lights, the house looked beautiful.
5. Seeing the policeman, the robbers ran away.
6. The answer being known to her, Monica put up her hand.
7. Finding the door open, I went inside.
8. The police saw the body floating down the river.
9. While reading the paper, he ate his breakfast.
10. Having felt hungry, he went on eating.
11. Having reached home, they went to bed immediately.
12. Having won a lottery, he bought a car.

Exercise-3

Correct the following sentences where necessary:

1. Mr. Sale being the only candidate, I appointed him to the post.
2. While sitting on the grass, he was bitten by a snake.
3. It being a very cold day, I remained in bed.
4. Meeting me in the club, my friend told me everything.
5. Going up the hill, they saw an old grave.
6. Observing that the canal was rising, a gang of labourers was sent for.
7. On hearing that there was a vacancy, an application was sent by me.
8. On joining the post immediately he was rewarded by them.

CHAPTER 21
The Gerund

Exercise-1

From the following sentences pick out Gerunds and Participles. If it is a Gerund, indicate whether it is a Subject, Object, Complement of a Verb or Object of a Preposition. If it is a Participle, point out the Noun or Pronoun it qualifies.

1. Telling : gerund, subject of the verb 'help'.
2. coming : gerund, object of the preposition 'for'.
3. reading and writing : gerund, object of the verb 'learn'.
4. Coming: gerund, with the noun 'events' it forms a compound noun.
5. burnt : past participle, functions as an adjective, qualifies 'child'.

6. gone: past participle, qualifies 'people'.
7. leaving : gerund, object of the verb 'mind'.
8. running : present participle, qualifies 'tap'.
9. standing : present participle, qualifies 'man'.
10. amassing : gerund, object of the preposition 'in'.
11. wounded : past participle, qualifies 'men'.
12. stolen: past participle, qualifies 'articles '.
13. Having done: perfect participle, qualifies 'I'.
14. irritating : present participle, qualifies 'behaviour'.
15. waiting: present participle, qualifies 'people'.
16. learning : gerund, object of the verb 'begin'.
17. knocking : present participle, qualifies 'he'.
18. killed : past participle, qualifies 'tiger'.
19. (1) Having seen : perfect participle, qualifies 'he' (2) coming: present participle, qualifies 'bear'.
20. being : present participle, qualifies 'weather'.

Exercise-2

Replace the Gerund by an Infinitive and vice versa in the following sentences:

1. Laughing is better than frowning.
2. To write a story is not easy.
3. He likes collecting books and does not like to give them away.
4. To fly kites is a favourite sport but betting on them is bad.
5. He loved reading and writing.
6. She likes to dance and to sing.
7. To reach school in time is always his problem.
8. Painting is good but to paint is not in his vein.
9. To earn money is good but spending always is undesirable.
10. To apologize for your misconduct is the only way of escaping punishment.

CHAPTER 38

Sentences : Simple, Complex and Compound

Exercise-1 : (1) within call (2) at every turn (3) in a kind manner (4) a life of ease (5) full of courage (6) no fun (7) good in parts (8) to swim with the tide (9) Come back (10) on duty (11) put up with (12) a man of iron will.

Exercise-2

1. I am <u>full of hope</u> about the result of my examination.
2. We wish to live a life <u>free from fear.</u>
3. It is difficult to live with a man <u>of ill temper.</u>
4. Guru Tegh Bahadur was a man <u>of great courage.</u>
5. This ticket was for yesterday's train. It is <u>of no use</u> now.
6. Wheels used to be <u>made of wood.</u>
7. Our representative in Parliament is a man <u>of great weight.</u>
8. Kanchenjanga is a mountain <u>of great height.</u>
9. We reached <u>in time</u> for the match.
(b) (i) He brought the plane down <u>in beautiful style.</u> (ii)

The sentries change duties at midnight. (iii) He shouted for help at the top of his voice. (iv) Who knows what will happen in the long run ? (v) The celebrations were to the entire satisfaction of all present. (vi) The magician made the elephant disappear in the twinkling of an eye. (vii) I promise not to repeat this mistake in future. (viii) I was just in time for the 7.40 train. (iv) This hair style has, now, gone out of fashion. (x) You will find the guard at his post for certain.

(c) (i) It is always a joy to win a prize. (ii) Early to bed and early to rise is a practice followed by very few nowadays. (iii) I would love to walk on the green grass but where can I find it ? (iv) It is not possible to answer the question with a simple 'yes' or 'no'. (v) I don't know what to do about my lazy brother. (vi) How could he do such a thing to his own wife ? I am looking for the place of our first meeting.

Exercise-3

Pick out the Principal Clause and the Subordinate Clause or Clauses in the following sentences:

1. *Burke spoke:* Principal Clause; *as though he were a born orator:* Subordinate Clause.

2. *He thought:* Principal Clause; *that the traitor should be put to death:* Subordinate Clause.

3. *The people told him:* Principal Clause; *When at last he reached the bank:* Subordinate Clause; *that he had won the wager:* Subordinate Clause.

4. *The newspaper will tell us tomorrow:* Principal Clause: *what the world is doing today:* Subordinate Clause..

5. *In the Middle Ages the few books ......were written by hand.* Principal clause; *that were produced at all:* Subordinate Clause.

6. *Artists drew their pictures on stones:* Principal Clause; *when the world was young:* Subordinate Clause.

7. *I could not bear:* Principal Clause: *what he said:* Subordinate Clause. *because it was most insulting:* Subordinate Clause.

8. *Have you heard:* Principal Clause: *that Shyam has been beaten by Prem:* Subordinate Clause.

9. *Let no one follow me to the place:* Principal Clause; *whither I now go:* Subordinate Clause.

10. *My brother hopes:* Principal Clause; *that you will pay us a visit:* Subordinate Clause.

Exercise-4

I. State which of the following sentences are Compound and which are Complex:

1. Compound   2. Complex   3. Complex
4. Complex   5. Compound   6. Complex
7. Compound   8. Complex   9. Complex
10. Compound   11. Compound   12. Compound

II. In the compound sentences in Exercise 4, separate the Co-ordinate Clauses and mention the Conjunctions Connecting these Clauses.

Compound Sentences

1. The building was destroyed by the earthquake
   The whole family was saved
   Conjunction: 'but'

5. Not only was he hard working
   But also possessed a robust constitution
   Conjunction: ' but'

7. He was exceedingly grateful
   We parted from each other in the best of moods
   Conjunction: 'and'

10. He must not attempt to escape
    He will be put to death
    Conjunction 'or'

11. We desire to succeed
    We work
    Conjunction: 'therefore'

12. Neither the colour of the cloth appeals to me
    Nor the design of the cloth appeals to me
    Conjunction: neither . . . nor.

III. In the complex sentences in Exercise 4, state the Principal Clauses and the Subordinate Clauses.

Complex Sentences

2. Looking behind, he saw a snake : Principal Clause
   That was following him: Subordinate Clause

3. I shall set up a grocer's shop: Principal Clause
   If I do not pass the examination: Subordinate Clause
4. He said: Principal Clause
   That he was so disappointed: Subordinate Clause
   That he would not try again: Subordinate Clause
6. The army of men .... are masters of peoples and statesmen: Principal Clause
   Who rule the world with their pens: Subordinate Clause
8. The evil....lives after them: Principal Clause
   That men do: Subordinate Clause
9. All......is not gold: Principal Clause
   That glitters: Subordinate Clause

17 Macbeth

MAIN COURSEBOOK

A. 1. proof
    2. utterances
    3. refusal
    4. order
    5. record
    6. worry

B. 1. a. The gentlewoman said these words to the doctor.
    1. b. They were discussing Lady Macbeth.
    1. c. These words tell us that the gentlewoman is dependable and loyal.
    2. a. The doctor says these words.
    2. b. The disease is that Lady Macbeth is walking in her sleep. She is agitated and is hallucinating.
    2. c. It is beyond the doctor's practice because he has never dealt with it before.

C. 1. According to the doctor, Lady Macbeth's guilt is the cause of her illness. Her heart is "sorely charg'd" with the burden of the guilt and that is responsible for her illness.
    2. The gentlewoman feels that there should be a witness to confirm her speech because what she says would not seem believable.
    3. Lady Macbeth says that they should not be scared because nobody knew about the deed committed.
    4. Lady Macbeth imagines blood on her hand owing to her guilty conscience and therefore, she says that not even the sweetest perfume will be able to remove that. This tells the doctor that her mind is infected and not just the body.
    5. Lady Macbeth is a woman facing a mental illness. She had committed a horrible deed in the past but is unable to deal with the guilt.

D. Accept any relevant response. Suggestions:
    1. Lady Macbeth suffered from feelings of guilt and horror. She was aware of what she had done and knew that it was evil.
    2. She washed her hands in an effort to wash away her guilt.
    3. Lady Macbeth was evil as she was clearly the one who had urged her husband to commit the deed. Yet her conscience did not allow her to rest and left her in a pathetic state.

E. 1. electronic and mail
    2. television and broadcast
    3. breakfast and lunch
    4. smoke and fog
    5. fantastic and fantabulous
    6. information and entertainment
    7. medical and care
    8. high and technology

F. 1. b   2. c   3. e   4. a   5. d   6. b

G. 1. e   2. a   3. f   4. c   5. d   6. active

H. 1. passive   2. passive   3. active   4. active   5. passive

I. 1. My mother directs plays.
    2. My younger sister develops websites.
    3. Kapil Dev inaugurated the sports academy.
    4. Fishermen catch fish.

5. My niece performed a ballet dance.

6. Many people watch cable television.

J. 1. The reservations for the journey were made by Jessica.

2. The car was cleaned thoroughly over the weekend by Mrs Sinha.

3. The music for the movie was composed by A R Rahman.

4. A scathing review of Prakash Raj's latest novel was written by the critic.

5. A funny video was posted on Facebook by Raman.

6. The intructions will be given to you by the teacher.

K. lord, Duncan, ambititious, Duncan, king, Banquo, guilty, sleepwalk, guilt, battle

L. Accept any relevant response. Suggestions:

1. May I say that it would be better to dine at another restaurant as the food they serve here is entirely to my liking?

2. I would like to suggest that I would read the book after watching the movie.

3. Instead of doing it this way may I ask you to use your pocket money to buy a book?

18 lf

Answers

A. 1. a. A person could be waiting to succeed or fulfil a given task.

   b. We will not be tired of waiting if we are patient enough.

   c. The poet asks us not to lie if we want to achieve our goals and be successful.

B. 1. The poet means that we should remain calm, determined and patient even in difficult times.

   2. The poet askes us to trust ourselves even when the others around us are doubting us.

   3. The poet says we should not look too good and talk too wise because it's important to maintain balance in our lives.

   4. Truth is twisted and misused by unscrupulous and unprincipled people. They misuse it to fool honest and innocent people.

   5. Determination and honesty can help a person start again in the face of failure.

C. Accept any relevant response. Suggestions:

   1. The poet has used the title 'If' to lay down the conditions a man needs to fulfil to become a true 'man'.

   2. The poem awakens feelings of patience, tolerance, fortitude and confidence.

3. The poet has used comparisons between characters, and contrasts between different actions to lay down the rules for a balanced way of life. One should wait and yet not be tired of waiting, one should dream but not make dreams one's master and be able to walk both with kings and commoners. It is only when one is able to lead a balanced life, that one becomes a true man.

D. apology — a statement of contrition for an action, a defence of one
   bill — a payment, an invoice for payment
   dust — to add fine particles, to remove the fine particles
   finished — completed, ended or destroyed
   literally — actually, virtually
   left — remained, departed

E. 1. be with all types of people yet live by your values
   2. time is short and if you make the mistake of wasting time, it does not come back to you;
   3. success and failure

F. 1. There are four things you can do go to school – stay at home, climb a mountain, or go to sleep
   2. Your idea is good, nevertheless, you should run it past the headmistress.
   3. Meera bought candy at the fair; I bought chocolate.
   4. It seems there is nothing we can be sure of, except uncertainty.
   5. There is one thing I dislike about television – the advertisements.

G. 1. The teacher said that they should have patience.
   2. Megha says that she loves trekking.
   3. Raman always says that his parents encourage him to take up outdoor activities.
   4. Her friend said that she / he preferred to read a book.

H. 1. The trekkers said, "We are feeling tired."
   2. Father said, "You should have been in bed by now."
   3. Maria said, "I need to prepare for a quiz tomorrow."
   4. The teacher asked the students, "Did anyone see the meteor shower?"

I. 1. Harsh said that the earth moves around the sun.
   2. The saint said that man proposes and God disposes.
   3. Manjula said that she always wakes up at 5 o' clock.
   4. Anita said that still remembers his friendly and gentle behaviour.
   5. The teacher said that the script of the Hindi language is called Devanagari.

J. Accept any relevant response. Suggested outline:
   Let us pause and think – do all children get all the privileges that we do? All of you have seen children on the streets – have you ever done anything for them?
   You come to school – wear good clothes, eat good food,

19 India's Heroes

ANSWERS
MAIN COURSEBOOK

A. 1. true 2. true 3. false 4. false 5. true

B. 1. a. Kabir's speech was a combination of traits and people from different walks of life.
   b. Colonel Sankalp Kumar and Major Sandeep Unnikrishnan were two who were spoken about.
   c. Kabir wanted to talk about their traits because these people have stirred his heart and had an impact on him.
   2. a. Major Sandeep Unnikrishnan said these words to his team.
   b. The speaker was referring to the terrorists.
   c. Major Unnikrishnan wanted to protect his team and therefore did not allow them to come up.

C. 1. The children before Kabir spoke about actors, sports cars and politicians.
   2. Kabir was nervous because he was not used to facing the entire class and speaking out loud. He also thought that he did not have the ability to make good speeches.
   3. Kabir called Vishnu Zende a dutiful man because Zende was an announcer with the Mumbai railways and without thinking about his own safety, he alarmed the people and asked them to use a different exit.
   4. Hemant Karkare was fearless because he pursued the terrorists in a jeep without thinking of his own safety.
   5. Mohammed Taufiq helped in transporting the injured to St George Hospital.

D. Accept any relevant response. Suggestions:
   1. Yes, Kabir's description was very touching. They were descriptions of ordinary people, from the daily walks of life, who rose to meet the crisis and became heroes.
   2. Their quality of bravery impressed Kabir for they were all people who acted because they cared for others. It was their unselfish act which had touched his heart.
   3. I would like to be brave, fearless and selfless like Kabir's heroes. Courage is what helps us to face the various crises of life and selflessness allows us to act for others.

E. 1. b 2. a 3. c 4. c 5. c 6. a

F. 1. recently 2. lately 3. just 4. In the past 5. previously

G. 1. However, father had told us not to expect a good hotel there because it is a very small town.
   2. Tomorrow, if it is a clear day, we will visit the Mehtas.
   3. "Will that be all?" was his question.
   4. "It doesn't make any difference," said she, "whether you come or not."
   5. "What's the matter with you, Narayan?" she inquired.
   6. Narayan replied, "I am trying to remember the poem that begins with the line, 'half a league.'"
   7. That was the day I travelled all alone to Kochi, even though I was only 12 years old.
   8. He is a member, at least he claims to be, of the Gymkhana Club.

H. 1. Manya asked Raman if he often goes to the library.
   2. Mother enquired if I had received the certificate.
   3. Fatima asked the shopkeeper whether the book was worth buying.

4. Teacher asked Rohan why he had not brought his English book that day.

5. The reporter asked the singer where had she learnt to sing that well.

I. 1. The teacher told his students that they would visit the Old People's Home on Friday.

2. Mrs Baruah suggested that they could discuss people and traits.

3. The monitor requested the boys to walk fast.

4. The doctor advised Mahua to eat plenty of green vegetables every day.

5. Myna proposed that they start their work.

J. 1. Aditi exclaimed that my speech was marvellous.

2. Gary Kirsten observed that it was a great shot. He added that Yuvraj was in great form tha

3. Shalu exclaimed that Mrs Baruah was her favourite teacher.

4. Mr Devesar informed that Bharatpur is the best place to watch migratory birds.

5. Jennifer exclaimed that she was going to teach online from the next day.

6. The class monitor shouted that they were going for a recital the coming week.

K. 1. A P J Abdul Kalam was born on 15 October, 1931 in Tamil Nadu.

2. He took up odd jobs in his childhood to support his family.

3. He enrolled at MIT to study aerospace engineering.

4. Kalam was the project director of India's first Satellite Launch Vehicle at ISRO.

5. Abdul Kalam served as the eleventh President of India.

6. The highest civilian honour bestowed on Kalam by the Government of India was the Bh

L. Accept any relevant response. Suggested outline:

There is no excuse for terrorism – no faith, no religion in the world allows for the inno
killed and harmed – anyone who believes strength is winning over others by force, is wr
is wrong to support this kind of belief – I believe love for human beings rises above all
attacks can be stopped if all men stand together

. Accept any relevant response. Suggested outline:

1. A person I admire is not one single person, but the unknown soldiers who guard th
our country.

2. They are brave, fearless – they can endure – they face the harsh climate, the pain o
away from their families, danger from the enemy – people are not aware of those v
their lives so that the rest are safe – they inspire us to be selfless

3. An unknown soldier is merely a face for us – but he is someone's son, someone's h
someone's father

21 Lata Mangeshkar . . . in Her Own Voice

A. 1. false   2. false   3. true   4. false   5. true

B. 1. Lata Mangeshkar's father realized that she would make an extraordinary singer when he heard her singing Raag Puriya Dhanashri.

2. For Lata Mangeshkar, the most important aspect of a song are the words. The emotional content of the song is most important.

3. Lata Mangeshkar prepares to sing in languages she is not familiar with by listening to someone who speaks the language and who reads the lyrics to her. She pays great attention to pronunciation. Once she hears the words spoken, she writes the song lines phonetically in Hindi and then sings.

4. Lata Mangeshkar is a positive person. People can't read her moods. She laughs and she jokes; she doesn't usually show what she is feeling inside.

5. The fact that the song *Ae mere watan ke logon* was written after the Chinese attack on India in the year 1962 makes it special.

C. Accept any relevant response. Suggestions:

1. The author says this because Lataji learnt several other languages to be able to sing in them. For her the lyrics of the song, which speak for the emotional content, are of supreme importance. This effort to better herself has made her such a master in singing.

2. Concentration, perseverance and a thirst for knowledge have taken Lataji to where she is now.

D. ACROSS

4. affectionate   7. awful   10. steel
5. kind   8. elated   11. tensed

DOWN

1. terrified   3. false   6. bearer
2. courageous   4. adolescent   9. devoted
5. effectively, successfully

E. 1. express   3. grant, lifelong
2. remove, lift   4. measure, lessen   5. chaos

F. 1. gnaw   3. silhouette   6. handkerchief
2. column   4. receipt   4. although   5. when

G. 1. neither   2. because   3. but

H. 1. You can walk or take a rickshaw to school.
2. Radha and Rama will go out to play after finishing their homework.
3. Ritwick is in bed because he is unwell.
4. Don't leave the house till Mother comes back.
5. It is raining but Madhav insisted to play outdoors.

C
S
S
S
C

5. unless

I. 1. so   2. so   3. unless   4. but   5. film
1. young   2. theatre   3. Sarojini Naidu   4. gramophones

ਪਾਠ ਨੰ:11

ਕਾਲ

ਪ੍ਰਸ਼ਨ 1.ਕਾਲ ਦੀ ਪਰਿਭਾਸ਼ਾ ਲਿਖੋ। ਕਾਲ ਕਿੰਨੀ ਕਿਸਮ ਦੇ ਹੁੰਦੇ ਹਨ?

ਉੱਤਰ-ਕਾਲ ਦਾ ਸ਼ਾਬਦਿਕ ਅਰਥ ਸਮਾਂ ਹੁੰਦਾ ਹੈ।ਵਿਆਕਰਨ ਵਿੱਚ ਕਾਲ ਤੋਂ ਭਾਵ ਉਸ ਸਮੇਂ ਤੋਂ ਹੁੰਦਾ ਹੈ ਜਿਸ ਵਿੱਚ ਕਿਰਿਆ ਦਾ ਕੰਮ ਹੁੰਦਾ ਹੈ, ਅਰਥਾਤ ਜਿਸ ਸਮੇਂ ਵਿੱਚ ਕਿਰਿਆ ਦਾ ਕੰਮ ਕੀਤਾ ਜਾਵੇ, ਉਸ ਨੂੰ ਕਾਲ ਆਖਦੇ ਹਨ।

ਪਾਠ ਨੰਬਰ 12

ਵਾਚ

ਪ੍ਰਸ਼ਨ-1. ਵਾਚ ਦੀ ਪਰਿਭਾਸ਼ਾ ਲਿਖੋ।

ਉੱਤਰ-ਕਿਰਿਆ ਦੇ ਜਿਸ ਰੂਪ ਤੋਂ ਇਹ ਜਾਣਕਾਰੀ ਮਿਲੇ ਕਿ ਕੀਤੇ ਗਏ ਜਾਂ ਹੋ ਰਹੇ ਕੰਮ ਦਾ ਵਿਸ਼ਾ ਕਰਤਾ ਹੈ ਜਾਂ ਕਰਮ ਹੈ ਅਰਥਾਤ ਵਾਕ ਵਿੱਚ ਕਰਤਾ ਜਾਂ ਕਰਮ ਵਿੱਚੋਂ ਕਿਹੜਾ ਪ੍ਰਧਾਨ ਹੈ,ਬਾਰੇ ਜਾਣਕਾਰੀ ਮਿਲੇ, ਉਸ ਨੂੰ ਵਾਚ ਕਿਹਾ ਜਾਂਦਾ ਹੈ।

ਪ੍ਰਸ਼ਨ 2. ਵਾਚ ਦੀਆਂ ਕਿਸਮਾਂ ਲਿਖੋ।

ਉੱਤਰ-ਵਾਚ ਦੀਆਂ ਦੋ ਕਿਸਮਾਂ ਹਨ।

1. ਕਰਤਰੀ ਵਾਚ

2. ਕਰਮਣੀ ਵਾਚ

ਪ੍ਰਸ਼ਨ 2. ਕਰਤਰੀ ਵਾਚ ਤੋਂ ਕੀ ਭਾਵ ਹੈ?

ਉੱਤਰ-ਕਿਰਿਆ ਦੇ ਜਿਸ ਰੂਪ ਤੋਂ ਇਹ ਜਾਣਕਾਰੀ ਮਿਲੇ ਕਿ ਵਾਕ ਵਿੱਚ ਕਰਤਾ ਪ੍ਰਧਾਨ ਹੈ ਤਾਂ ਉਸ ਨੂੰ ਕਰਤਰੀ ਵਾਚ ਕਿਹਾ ਜਾਂਦਾ ਹੈ।

ਪ੍ਰਸ਼ਨ 3. ਕਰਮਣੀ ਵਾਚ ਕਿਸ ਨੂੰ ਕਿਹਾ ਜਾਂਦਾ ਹੈ?

ਉੱਤਰ-ਕਿਰਿਆ ਦੇ ਜਿਹੜੇ ਰੂਪ ਤੋਂ ਇਹ ਜਾਣਕਾਰੀ ਮਿਲੇ ਕਿ ਵਾਕ ਵਿੱਚ ਕਰਮ ਪ੍ਰਧਾਨ ਹੈ ਤਾਂ ਉਸ ਨੂੰ ਕਰਮਣੀ ਵਾਚ ਆਖਦੇ ਹਨ।

ਫੁਲਵਾੜੀ ਪੰਜਾਬੀ ਪਾਠ ਮਾਲਾ
ਪਾਠ ਨੰਬਰ 14
ਕਹਾਣੀ -ਅਜ਼ਾਦੀ ਦਾ ਸੁਖ
ਕਹਾਣੀਕਾਰ- ਦਰਸ਼ਨ ਸਿੰਘ ਆਸ਼ਟ

1. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਇੱਕ ਦੋ ਲਾਈਨਾਂ ਵਿੱਚ ਦਿਓ।

(ੳ) ਪਿੰਟੂ ਨੇ ਬੋਹੜ ਦੀ ਖੋੜ ਵਿੱਚ ਕੀ ਦੇਖਿਆ?

ਉੱਤਰ - ਪਿੰਟੂ ਨੇ ਬੋਹੜ ਦੀ ਖੋੜ ਵਿੱਚ ਤੋਤੀ ਦੇ ਦੋ ਨਿੱਕੇ-ਨਿੱਕੇ ਬੱਚੇ ਦੇਖੇ।

(ਅ) ਪਿੰਟੂ ਦੀ ਮੰਮੀ ਨੇ ਉਸ ਦੇ ਪਾਪਾ ਨੂੰ ਕੀ ਕਿਹਾ?

ਉੱਤਰ-ਪਿੰਟੂ ਦੀ ਮੰਮੀ ਨੇ ਉਸਦੇ ਪਾਪਾ ਨੂੰ ਕਿਹਾ ਕਿ ਤੁਸੀਂ ਪਿੰਟੂ ਦੀਆਂ ਨਜਾਇਜ਼ ਮੰਗਾਂ ਮੰਨ ਕੇ ਉਸ ਨੂੰ ਵਿਗਾੜ ਰਹੇ ਹੋ । ਮੈਂ ਉਸ ਨੂੰ ਪਿੰਜਰਾ ਲੈ ਕੇ ਦੇਣ ਦੇ ਹੱਕ ਵਿੱਚ ਨਹੀਂ ਹਾਂ।

(ੲ) ਪਿੰਟੂ ਦੀ ਨਾਨੀ ਨੇ ਉਸ ਨੂੰ ਸਮਝਾਉਂਦਿਆਂ ਕਿਹੜੇ ਸ਼ਬਦ ਕਹੇ?

ਉੱਤਰ-ਪਿੰਟੂ ਦੀ ਨਾਨੀ ਨੇ ਕਿਹਾ ਕਿ ਕਿਸੇ ਜੀਵ ਨੂੰ ਕੈਦੀ ਬਣਾਉਣਾ ਚੰਗਾ ਨਹੀਂ ਹੁੰਦਾ । ਮਨੁੱਖ ਤਾਂ ਕੀ ਪਸੂ-ਪੰਛੀ ਵੀ ਗੁਲਾਮ ਰਹਿਣਾ ਪਸੰਦ ਨਹੀਂ ਕਰਦੇ। ਇਸ ਲਈ ਤੂੰ ਇਸ ਨੂੰ ਛੱਡ ਦੇ।

(ਸ) ਸੱਜਣ ਕੌਣ ਸੀ? ਉਸ ਨੇ ਕਿਸ ਦੀ ਆਵਾਜ਼ ਸੁਣੀ?

ਉੱਤਰ-ਸੱਜਣ ਪਿੰਡ ਦਾ ਇੱਕ ਕਿਸਾਨ ਸੀ । ਉਸ ਨੇ ਇਕ ਬੱਚੇ ਦੇ ਰੋਣ ਦੀ ਆਵਾਜ਼ ਸੁਣੀ।

(ਹ) ਅੰਤ ਵਿੱਚ ਪਿੰਟੂ ਨੇ ਤੋਤੇ ਨੂੰ ਅਜ਼ਾਦ ਕਰਦਿਆ ਕਿਹੜੇ ਸ਼ਬਦ ਕਹੇ?

ਉੱਤਰ-ਅੰਤ ਵਿੱਚ ਪਿੰਟੂ ਨੇ ਤੋਤੇ ਨੂੰ ਅਜ਼ਾਦ ਕਰਦਿਆਂ ਕਿਹਾ ਕਿ ਸਾਨੂੰ ਕਿਸੇ ਦੀ ਅਜ਼ਾਦੀ ਖੋਹਣ ਦਾ ਕੋਈ ਹੱਕ ਨਹੀਂ ਹੈ।

2. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਵੱਡੇ ਰੂਪ ਵਿੱਚ ਦਿਓ।

(ੳ) ਤੋਤੇ ਨੂੰ ਦੇਖ ਕੇ ਪਿੰਟੂ ਦੇ ਮਨ ਵਿੱਚ ਕੀ ਸਵਾਲ ਆਏ?

ਉੱਤਰ-ਤੋਤੇ ਦੇ ਬੱਚਿਆਂ ਨੂੰ ਦੇਖ ਕੇ ਪਿੰਟੂ ਸੋਚਣ ਲੱਗਾ ਕੇ ਕਿੰਨਾ ਚੰਗਾ ਹੋਵੇ ਜੇ ਮੈਂ ਇਹਨਾਂ ਵਿੱਚੋਂ ਇਕ ਨੂੰ ਪਕੜ ਕੇ ਘਰ ਲੈ ਚੱਲਾਂ । ਬੜਾ ਮਜ਼ਾ ਆਇਆ ਕਰੇਗਾ। ਫਿਰ ਉਸ ਦੇ ਮਨ ਵਿੱਚ ਵਿਚਾਰ ਆਇਆ ਕਿ ਮੇਰੇ ਘਰ ਤਾਂ ਪਿੰਜਰਾ ਹੀ ਨਹੀਂ ਹੈ। ਪਹਿਲਾਂ ਜਾ ਕੇ ਮੈਂ ਪਿੰਜਰਾ ਖਰੀਦਦਾ ਹਾਂ ਅਤੇ ਫਿਰ ਉਸ ਵਿੱਚ ਤੋਤੇ ਦੇ ਬੱਚੇ ਨੂੰ ਬੰਦ ਕਰ ਲਵਾਂਗਾ।

(ਅ) ਨਾਨੀ ਦੇ ਲਾਲਚ ਦੇਣ ਤੇ ਪਿੰਟੂ ਨੇ ਨਾਨੀ ਨੂੰ ਕਿਹੜੇ ਸ਼ਬਦ ਕਹੇ?

ਉੱਤਰ-ਨਾਨੀ ਦੇ ਲਾਲਚ ਦੇਣ ਤੇ ਪਿੰਟੂ ਨੇ ਨਾਨੀ ਨੂੰ ਕਿਹਾ ਕਿ ਤੁਸੀਂ ਤਾਂ ਸੌ ਰੁਪਏ ਦੀ ਗੱਲ ਕਰਦੇ ਹੋ । ਮੰਮੀ ਤਾਂ ਪੰਜ ਸੌ ਰੁਪਏ ਦੇਣ ਦੀ ਗੱਲ ਕਰ ਚੁੱਕੇ ਹਨ। ਪਰ ਮੈਨੂੰ ਕੋਈ ਹਜ਼ਾਰ ਰੁਪਇਆ ਵੀ ਦੇਵੇ ਤਾਂ ਵੀ ਮੈਂ ਗੰਗੂ ਨੂੰ ਛੱਡਣ ਲਈ ਤਿਆਰ ਨਹੀਂ ਹਾਂ। ਇਹ ਤਾਂ ਮੇਰੇ ਘਰ ਦੀ ਸ਼ਾਨ ਹੈ । ਮੇਰੇ ਬਹੁਤ ਸਾਰੇ ਮਿੱਤਰ ਇਸ ਨੂੰ ਵੇਖਣ ਤੇ ਇਸ ਦੇ ਨਾਲ ਖੇਡਣ ਲਈ ਇੱਥੇ ਆਉਂਦੇ ਹਨ।

(ੲ) ਪਿੰਟੂ ਗੁੰਮ ਹੋ ਜਾਣ ਤੇ ਪਿੰਟੂ ਦੇ ਮੰਮੀ ਪਾਪਾ ਦਾ ਕੀ ਹਾਲ ਹੋਇਆ?

ਉੱਤਰ-ਪਿੰਟੂ ਦੇ ਗੁੰਮ ਹੋ ਜਾਣ ਤੇ ਉਸ ਦੇ ਮੰਮੀ-ਪਾਪਾ ਦਾ ਬੁਰਾ ਹਾਲ ਹੋ ਗਿਆ ਸੀ। ਉਸ ਦੀ ਮੰਮੀ ਚਿੰਤਾ ਵਿੱਚ ਰੋਣ ਲੱਗ ਪਈ । ਉਹਨਾਂ ਦੇ ਮਨ ਵਿੱਚ ਬੁਰੇ ਖਿਆਲ ਆਉਣ ਲੱਗ ਪਏ। ਸ਼ਾਮ ਪੈਣ ਲੱਗੀ ਤਾਂ ਮੰਮੀ ਪਾਪਾ ਥਾਣੇ ਰਿਪੋਰਟ ਲਿਖਾਉਣ ਲਈ ਜਾਣ ਲੱਗੇ।

(ਸ) ਪਿੰਟੂ ਨੇ ਸੱਜਣ ਨੂੰ ਕੀ ਦੱਸਿਆ?

ਉੱਤਰ- ਪਿੰਟੂ ਨੇ ਸੱਜਣ ਨੂੰ ਦੱਸਿਆ ਕਿ ਉਹ ਆਪਣੀ ਜਮਾਤ ਵਿੱਚ ਪਿਛਲੇ ਬੈਂਚ ਤੇ ਬੈਠਾ ਸੀ । ਉਸ ਨੂੰ ਪਤਾ ਹੀ ਨਾ ਲੱਗਿਆ ਕਿ ਕਦੋਂ ਉਸ ਨੂੰ ਨੀਂਦ ਆ ਗਈ ਤੇ ਕਦੋਂ ਛੁੱਟੀ ਹੋ ਗਈ । ਨਾ ਹੀ ਉਸ ਨੂੰ ਇਹ ਪਤਾ ਲੱਗਿਆ ਕਿ ਸਕੂਲ ਦਾ ਚੌਕੀਦਾਰ ਕਦੋਂ ਦਰਵਾਜ਼ੇ ਨੂੰ ਤਾਲਾ ਲਗਾ ਕੇ ਚਲਾ ਗਿਆ।

3. ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ /ਮੁਹਾਵਰਿਆਂ ਨੂੰ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋ-

1. ਚੌਕੰਨਾ- ਚੌਕੰਨਾ ਬੰਦਾ ਕਦੇ ਧੋਖਾ ਨਹੀਂ ਖਾਂਦਾ।

2. ਨਾਜਾਇਜ਼- ਮਾਤਾ ਪਿਤਾ ਨੂੰ ਬੱਚਿਆਂ ਦੀਆਂ ਨਾਜਾਇਜ਼ ਮੰਗਾਂ ਪੂਰੀਆਂ ਨਹੀਂ ਕਰਨੀਆਂ ਚਾਹੀਦੀਆਂ।

3. ਗੁਲਾਮ -1947 ਤੋਂ ਪਹਿਲਾਂ ਅਸੀਂ ਅੰਗਰੇਜ਼ਾਂ ਦੇ ਗੁਲਾਮ ਸੀ।

4. ਸਬਰ ਦਾ ਪਿਆਲਾ ਛਲਕਣਾ-ਆਪਣੇ ਨਾਲ ਹੁੰਦੀ ਬੇਇਨਸਾਫੀ ਦੇਖ ਕੇ ਮੇਰੇ ਸਬਰ ਦਾ ਪਿਆਲਾ ਛਲਕ ਪਿਆ।

5. ਬੋਲ ਬੁਲਾਰਾ-ਸਾਨੂੰ ਕਿਸੇ ਨਾਲ ਬੋਲ ਬੁਲਾਰਾ ਨਹੀਂ ਕਰਨਾ ਚਾਹੀਦਾ।

6. ਉੱਘ-ਸੁੱਘ-ਸ਼ਾਮ ਤੱਕ ਪਿੰਟੂ ਦੀ ਕੋਈ ਉੱਘ-ਸੁੱਘ ਨਾ ਮਿਲੀ।

7. ਪਲਾਂ-ਛਿਣਾਂ-ਪਲਾਂ ਛਿਣਾਂ ਵਿੱਚ ਹੀ ਪਿੰਟੂ ਦੇ ਗੁੰਮ ਹੋਣ ਦੀ ਖ਼ਬਰ ਹਰ ਪਾਸੇ ਫੈਲ ਗਈ।

8. ਮੱਥਾ ਠਣਕਣਾ-ਮੇਰਾ ਅੱਜ ਸਵੇਰ ਤੋਂ ਹੀ ਮੱਥਾ ਠਣਕ ਰਿਹਾ ਸੀ ਕਿ ਅੱਜ ਕੁਝ ਮਾੜਾ ਹੋਣ ਵਾਲਾ ਹੈ।

9. ਟੱਕਰ ਜਾਣਾ-ਕੱਲ੍ਹ ਰਸਤੇ ਵਿੱਚ ਮੈਨੂੰ ਮੇਰਾ ਦੋਸਤ ਟੱਕਰ ਗਿਆ।

10. ਧਰਵਾਸ-ਸਾਰੇ ਲੋਕ ਪਿੰਟੂ ਦੇ ਮਾਤਾ-ਪਿਤਾ ਨੂੰ ਧਰਵਾਸ ਦੇ ਰਹੇ ਸਨ।

11. ਸੁਖ ਦਾ ਸਾਹ ਲੈਣਾ-ਪਿੰਟੂ ਦੇ ਮਿਲ ਜਾਣ ਉੱਤੇ ਪਿੰਟੂ ਦੇ ਮਾਤਾ ਪਿਤਾ ਨੇ ਸੁਖ ਦਾ ਸਾਹ ਲਿਆ।

1.ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਇੱਕ ਦੋ ਲਾਇਨਾਂ ਵਿੱਚ ਦਿਓ।

(ੳ) ਭਾਸ਼ਣ ਪ੍ਰਤੀਯੋਗਤਾ ਕਿਹੜੀ ਜਮਾਤ ਤੱਕ ਦੇ ਬੱਚਿਆਂ ਵਿਚਕਾਰ ਹੋ ਰਹੀ ਸੀ?

ਉੱਤਰ-ਭਾਸ਼ਣ ਪ੍ਰਤੀਯੋਗਤਾ 8ਵੀਂ ਜਮਾਤ ਤੱਕ ਦੇ ਬੱਚਿਆਂ ਵਿਚਕਾਰ ਹੋ ਰਹੀ ਸੀ।

(ਅ) ਭਾਸ਼ਣ ਪ੍ਰਤੀਯੋਗਤਾ ਦਾ ਵਿਸ਼ਾ ਕੀ ਸੀ?

ਉੱਤਰ-ਭਾਸ਼ਣ ਪ੍ਰਤੀਯੋਗਤਾ ਦਾ ਵਿਸ਼ਾ ਮੋਬਾਇਲ ਸੀ।

(ੲ) ਮੋਬਾਇਲ ਕਿੱਥੋਂ ਤੋਂ ਕਿੱਥੋਂ ਤੱਕ ਦੀ ਸ਼ਾਨ ਬਣ ਚੁੱਕਾ ਹੈ?

ਉੱਤਰ-ਮੋਬਾਇਲ ਅਮੀਰ ਦੇ ਮਹਿਲਾਂ ਤੋਂ ਲੈ ਕੇ ਗਰੀਬ ਦੀ ਝੌਂਪੜੀ ਤੱਕ ਦੀ ਸ਼ਾਨ ਬਣ ਚੁੱਕਾ ਹੈ।

(ਸ) ਮੋਬਾਇਲ ਮਨੋਰੰਜਨ ਦਾ ਸਾਧਨ ਕਿਵੇਂ ਹੈ?

ਉੱਤਰ-ਮੋਬਾਇਲ ਉੱਤੇ ਅਸੀਂ ਆਪਣੇ ਮਨਪਸੰਦ ਗਾਣੇ ਸੁਣ ਸਕਦੇ ਹਾਂ, ਫ਼ਿਲਮਾਂ ਦੇਖ ਸਕਦੇ ਹਾਂ ਅਤੇ ਕਈ ਪ੍ਰਕਾਰ ਦੀਆਂ ਖੇਡਾਂ ਖੇਡ ਸਕਦੇ ਹਾਂ।

(ਹ) ਪੁਲਿਸ ਨੇ ਮੋਬਾਇਲ ਦੇ ਜ਼ਰੀਏ ਕਿਹੜੇ ਕਿਹੜੇ ਮਸਲੇ ਹੱਲ ਕੀਤੇ ਹਨ?

ਉੱਤਰ-ਪੁਲਿਸ ਨੇ ਮੋਬਾਇਲ ਦੇ ਜ਼ਰੀਏ ਪੇਚੀਦਾ ਤੋਂ ਪੇਚੀਦਾ ਮਸਲੇ ਹੱਲ ਕੀਤੇ ਹਨ। ਅਗਵਾ ਕਾਂਡ, ਲੁੱਟਾਂ-ਖੋਹਾਂ, ਚੋਰੀਆਂ ਡਕੈਤੀਆਂ ਦੀਆਂ ਗੁੱਥੀਆਂ ਨੂੰ ਸੁਲਝਾਇਆ ਹੈ।

(ਕ) ਮੋਬਾਇਲ ਨਾਲ ਕਿਹੜੀਆਂ ਕਿਹੜੀਆਂ ਬਿਮਾਰੀਆਂ ਵਧ ਰਹੀਆਂ ਹਨ?

ਉੱਤਰ- ਮੋਬਾਇਲ ਨਾਲ ਕੈਂਸਰ ,ਬਲੱਡ ਪ੍ਰੈਸ਼ਰ ,ਟੈਨਸ਼ਨ ਮਾਯੂਸੀ ਆਦਿ ਬਿਮਾਰੀਆਂ ਵਧ ਰਹੀਆਂ ਹਨ।

(ਖ) ਮੋਬਾਇਲ ਕੰਪਨੀਆਂ ਗਾਹਕਾਂ ਨੂੰ ਕਿਵੇਂ ਲੁੱਟ ਰਹੀਆਂ ਹਨ।

ਉੱਤਰ-ਮੋਬਾਇਲ ਕੰਪਨੀਆਂ ਵਾਲੇ ਹਰ ਰੋਜ਼ ਨਵੇਂ ਤੋਂ ਨਵਾਂ ਮੋਬਾਇਲ ਸੈੱਟ ਮਾਰਕੀਟ ਵਿੱਚ ਲਿਆ ਕੇ ਖੜਾ ਕਰਦੇ ਹਨ ਇਸ ਤਰ੍ਹਾਂ ਇਹ ਗਾਹਕਾਂ ਨੂੰ ਦੋਵੇਂ ਹੱਥੀਂ ਲੁੱਟ ਰਹੇ ਹਨ।

2. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਵੱਡੇ ਰੂਪ ਵਿੱਚ ਲਿਖੋ।

(ੳ) ਮੋਬਾਇਲ ਦੇ ਲਾਭ ਸੰਖੇਪ ਵਿੱਚ ਲਿਖੋ।

ਉੱਤਰ-ਮੋਬਾਇਲ ਤੋਂ ਸਾਨੂੰ ਬਹੁਤ ਸਾਰੇ ਲਾਭ ਹਨ । ਇਸ ਉੱਤੇ ਅਸੀਂ ਦੂਰ - ਦਰਾਡੇ ਲੋਕਾਂ ਨਾਲ ਗੱਲਾਂ ਕਰ ਸਕਦੇ ਹਾਂ। ਇਸ ਦੀ ਸਹਾਇਤਾ ਨਾਲ ਵਪਾਰੀ ਆਪਣੇ ਵਪਾਰ ਵਿੱਚ ਵਾਧਾ ਕਰਦੇ ਹਨ। ਇਸ ਤੋਂ ਗਾਣੇ ਸੁਣ ਕੇ ਲੋਕ ਮਨੋਰੰਜਨ ਕਰਦੇ ਹਨ। ਮੋਬਾਇਲ ਦੀ ਸਹਾਇਤਾ ਨਾਲ ਪੁਲਿਸ   ਪੇਚੀਦਾ ਮਾਮਲੇ ਹੱਲ ਕਰਦੀ ਹੈ । ਮੋਬਾਇਲ ਤੇ ਇੰਟਰਨੈੱਟ ਦੀ ਸਹਾਇਤਾ ਨਾਲ ਅਸੀਂ ਨਵੀਂ ਤੋਂ ਨਵੀਂ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰ ਸਕਦੇ ਹਾਂ।

(ਅ) ਮੋਬਾਇਲ ਦੁਰਘਟਨਾਵਾਂ ਦਾ ਕਾਰਨ ਕਿਵੇਂ ਬਣਦਾ ਹੈ?

ਉੱਤਰ-ਜਦੋਂ ਕਾਰ ,ਬੱਸ ਜਾਂ ਟਰੱਕ ਚਲਾਉਣ ਵਾਲੇ ਚਾਲਕ ਮੋਬਾਇਲ ਤੇ ਗੱਲਾਂ ਕਰਨ ਲੱਗ ਪੈਂਦੇ ਹਨ , ਤਾਂ ਉਨ੍ਹਾਂ ਦਾ ਧਿਆਨ ਗੱਲਾਂ ਵੱਲ ਲੱਗ ਜਾਂਦਾ ਹੈ ।ਕੋਈ ਵੀ ਵਾਹਨ ਚਲਾਉਣ ਲਈ ਦਿਮਾਗ਼ੀ ਤੌਰ ਤੇ ਹਾਜ਼ਰ ਰਹਿਣ ਦੀ ਲੋੜ ਹੁੰਦੀ ਹੈ ਪਰ ਜਦੋਂ ਸਾਡਾ ਧਿਆਨ ਕਿਸੇ ਹੋਰ ਪਾਸੇ ਹੁੰਦਾ ਹੈ ਤਦ

ਦੁਰਘਟਨਾਵਾਂ ਹੋ ਜਾਂਦੀਆਂ ਹਨ। ਪਰ ਇਹ ਦੁਰਘਟਨਾਵਾਂ ਮੋਬਾਇਲ ਦੀ ਦੁਰਵਰਤੋਂ ਕਾਰਨ ਹੀ ਹੁੰਦੀਆਂ ਹਨ।

(ੲ) ਮੋਬਾਇਲ ਬੱਚਿਆਂ ਵਿੱਚ ਇੱਕ ਫੈਸ਼ਨ ਬਣ ਗਿਆ ਹੈ, ਕਿਵੇਂ?

ਉੱਤਰ-ਅੱਜ ਮੋਬਾਇਲ ਬੱਚਿਆਂ ਵਿੱਚ ਫੈਸ਼ਨ ਬਣ ਗਿਆ ਹੈ। ਹਰ ਕੋਈ ਚਾਹੁੰਦਾ ਹੈ ਕਿ ਉਸ ਕੋਲ ਮੋਬਾਇਲ ਹੋਵੇ । ਕੁੜੀਆਂ- ਮੁੰਡੇ ਇਕ ਦੂਜੇ ਨਾਲ ਲੰਮੀਆਂ - ਲੰਮੀਆਂ ਗੱਲਾਂ ਕਰਨੀਆਂ ਚਾਹੁੰਦੇ ਹਨ।ਜੇ ਮਾਪੇ ਬੱਚਿਆਂ ਨੂੰ ਮੋਬਾਇਲ ਫੋਨ ਨਾ ਲੈ ਕੇ ਦੇਣ ਤਾਂ ਉਹ ਉਹਨਾਂ ਦੀ ਜਾਨ ਖਾਂਦੇ ਰਹਿੰਦੇ ਹਨ ।

(ਸ) ਮੁੰਡੇ-ਕੁੜੀਆਂ ਮੋਬਾਇਲ ਦੇ ਨਜਾਇਜ਼ ਫ਼ਾਇਦੇ ਕਿਵੇਂ ਲੈ ਰਹੇ ਹਨ?

ਉੱਤਰ-ਜਿੱਥੇ ਮੋਬਾਇਲ ਫੋਨ ਨੈਜਵਾਨ ਮੁੰਡੇ -ਕੁੜੀਆਂ ਲਈ ਵਰਦਾਨ ਸਾਬਤ ਹੋਇਆ ਹੈ ।ਉੱਥੇ ਉਹ ਇਸ ਦਾ ਨਜਾਇਜ਼ ਫ਼ਾਇਦਾ ਵੀ ਲੈ ਰਹੇ ਹਨ। ਉਹ ਘੰਟਿਆਂ ਬੱਧੀ ਫੋਨ ਤੇ ਗੱਲਾਂ ਕਰਦੇ ਰਹਿੰਦੇ ਹਨ ਅਤੇ ਬੇਲੋੜੀਆਂ ਸਾਈਟਾਂ ਖੋਲ੍ਹ ਕੇ ਦੇਖਦੇ ਹਨ।ਜਿਸ ਨਾਲ ਨੈਜਵਾਨ ਮੁੰਡੇ -ਕੁੜੀਆਂ ਵਿੱਚ ਅਸ਼ਲੀਲਤਾ ਵਧੀ ਹੈ ।ਇਸ ਤਰ੍ਹਾਂ ਉਹਨਾਂ ਦੀ ਪੜ੍ਹਾਈ ਦਾ ਨੁਕਸਾਨ ਤਾਂ ਹੁੰਦਾ ਹੀ ਹੈ ਅਤੇ ਨਾਲ ਹੀ ਸਿਹਤ ਤੇ ਵੀ ਬੁਰਾ ਅਸਰ ਪੈਂਦਾ ਹੈ । ਇਸ ਲਈ ਨੈਜਵਾਨ ਮੁੰਡੇ -ਕੁੜੀਆਂ ਨੂੰ ਇਸ ਦੀ ਵਰਤੋਂ ਸੋਚ -ਸਮਝ ਕੇ ਕਰਨੀ ਚਾਹੀਦੀ ਹੈ।

(ਹ) ਮੋਬਾਇਲ ਸਭਾ ਸੁਸਾਇਟੀ ਵਿੱਚ ਖਲਲ ਕਿਵੇਂ ਪਾਉਂਦਾ ਹੈ?

ਉੱਤਰ-ਜਦੋਂ ਅਸੀਂ ਕਿਸੇ ਸਭਾ ਸੁਸਾਇਟੀ ਵਿੱਚ ਬੈਠੇ ਹੁੰਦੇ ਹਾਂ ਤਾਂ ਮੋਬਾਇਲ ਦੀ ਘੰਟੀ ਵੱਜਣ ਨਾਲ ਸਾਰੇ ਵਾਤਾਵਰਣ ਵਿੱਚ ਖਲਲ ਪੈਦਾ ਹੋ ਜਾਂਦਾ ਹੈ।ਸਭ ਦਾ ਧਿਆਨ ਮੋਬਾਇਲ ਦੀ ਘੰਟੀ ਵਾਲਾ ਚਲਾ ਜਾਂਦਾ ਹੈ। ਕਈਆਂ ਦੀਆਂ ਰਿੰਗ-ਟੋਨਾ ਅਜਿਹੀਆਂ ਹੁੰਦੀਆਂ ਹਨ ਕਿ ਸੁਣ ਕੇ ਸ਼ਰਮ ਆ ਜਾਂਦੀ ਹੈ। ਇਸ ਤਰ੍ਹਾਂ ਇਹ ਸਭਾ-ਸੁਸਾਇਟੀ ਵਿੱਚ ਖਲਲ ਪੈਦਾ ਕਰਦਾ ਹੈ।

3. ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ/ ਮੁਹਾਵਰਿਆਂ ਨੂੰ ਵਾਕਾ ਵਿੱਚ ਵਰਤੋ-

1. <u>ਪ੍ਰਤੀਯੋਗਤਾ-</u> ਸਕੂਲ ਵਿੱਚ ਭਾਸ਼ਣ ਪ੍ਰਤੀਯੋਗਤਾ ਕਰਵਾਈ ਗਈ।
2. <u>ਉਤਾਵਲੇ-</u> ਬੱਚੇ ਭਾਸ਼ਣ ਸੁਣਨ ਲਈ ਉਤਾਵਲੇ ਸਨ।
- <u>ਕਾਢ-</u> ਮੋਬਾਇਲ 20ਵੀਂ ਸਦੀ ਦੀ ਮਹੱਤਵਪੂਰਨ ਕਾਢ ਹੈ।
3. <u>ਲੋਕ-ਪ੍ਰਿਅਤਾ-</u> ਮੋਬਾਇਲ ਦੀ ਲੋਕ-ਪ੍ਰਿਅਤਾ ਵੱਧਦੀ ਜਾ ਰਹੀ ਹੈ।
4. <u>ਜ਼ਰੀਏ-</u> ਇੰਟਰਨੈੱਟ ਦੇ ਜ਼ਰੀਏ ਕੰਮ ਅਸਾਨ ਹੁੰਦਾ ਜਾ ਰਿਹਾ ਹੈ।
5. <u>ਖੁਫੀਆ-</u> ਪੁਲਿਸ ਦੀਆਂ ਖੁਫੀਆ ਏਜੰਸੀਆਂ ਨੂੰ ਮੋਬਾਇਲ ਦਾ ਬਹੁਤ ਲਾਭ ਹੋਇਆ ਹੈ।
6. <u>ਜਾਨ ਖਾਣੀ -</u> ਅੱਜ ਕੱਲ੍ਹ ਬੱਚੇ ਮੋਬਾਇਲ ਲਈ ਮਾਪਿਆਂ ਦੀ ਬਹੁਤ ਜਾਨ ਖਾਂਦੇ ਹਨ।
7. <u>ਮਾਯੂਸੀ -</u> ਮਾਯੂਸੀ ਇੱਕ ਭੈੜਾ ਰੋਗ ਹੈ।
8. <u>ਗੰਦੇ ਅਨਸਰ-</u> ਕਈ ਗੰਦੇ ਅਨਸਰ ਦੇਸ ਦੀ ਸ਼ਾਂਤੀ ਭੰਗ ਕਰ ਦਿੰਦੇ ਹਨ।
9. <u>ਦੋਹੀਂ ਹੱਥੀਂ ਲੁੱਟਣਾ-</u> ਮੋਬਾਇਲ ਕੰਪਨੀਆ ਲੋਕਾਂ ਨੂੰ ਦੋਹੀਂ ਹੱਥੀਂ ਲੁੱਟ ਰਹੀਆਂ ਹਨ।

Class 8th
Subject Punjabi
Book Punjabi Reader
ਫੁਲਵਾੜੀ ਪੰਜਾਬੀ ਪਾਠ ਮਾਲਾ
ਪਾਠ ਨੰਬਰ 17
ਹਰੀ ਸਿੰਘ ਨਲਵਾ

1. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਇੱਕ ਦੋ ਲਾਈਨਾਂ ਵਿੱਚ ਦਿਓ।

(ੳ) ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਕਿਸ ਰਾਜ ਦੇ ਬਾਨੀ ਸਨ?

ਉੱਤਰ-ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਸਿੱਖ ਰਾਜ ਦੇ ਬਾਨੀ ਸਨ।

(ਅ) ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਕਿਹੋ ਜਿਹਾ ਪੁਰਸ਼ ਸੀ?

ਉੱਤਰ-ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਜਾਂਬਾਜ਼ ਪੁਰਸ਼ ਸੀ।

(ੲ) ਹਰੀ ਸਿੰਘ ਦੇ ਮਾਤਾ ਪਿਤਾ ਦਾ ਨਾਂ ਲਿਖੋ।

ਉੱਤਰ -ਹਰੀ ਸਿੰਘ ਦੇ ਪਿਤਾ ਦਾ ਨਾਂ ਸਰਦਾਰ ਗੁਰਦਿਆਲ ਸਿੰਘ ਅਤੇ ਮਾਤਾ ਦਾ ਨਾਂ ਧਰਮ ਕੌਰ ਸੀ।

(ਸ) ਹਰੀ ਸਿੰਘ ਦੀ ਪਾਲਣਾ ਕਿਸਨੇ ਕੀਤੀ?

ਉੱਤਰ-ਹਰੀ ਸਿੰਘ ਦਾ ਪਾਲਣ -ਪੋਸ਼ਣ ਉਸ ਦੀ ਮਾਂ ਅਤੇ ਮਾਮਾ ਜੀ ਨੇ ਕੀਤਾ।

(ਹ) ਹਰੀ ਸਿੰਘ ਨੇ ਕਿਹੜੇ ਹਥਿਆਰ ਚਲਾ ਕੇ ਪ੍ਰੀਖਿਆ ਦਿੱਤੀ?

ਉੱਤਰ- ਹਰੀ ਸਿੰਘ ਨੇ ਬੰਦੂਕ ਤਲਵਾਰ ਅਤੇ ਹੋਰ ਹਥਿਆਰ ਚਲਾ ਕੇ ਫ਼ੌਜ ਵਿੱਚ ਭਰਤੀ ਹੋਣ ਦੀ ਪ੍ਰੀਖਿਆ ਦਿੱਤੀ।

(ਹ) ਹਰੀ ਸਿੰਘ ਨਲੂਏ ਨੇ ਕਸ਼ਮੀਰ ਵਿਖੇ ਕਿਹੜੇ ਅਹੁਦੇ 'ਤੇ ਕੰਮ ਕੀਤਾ?

ਉੱਤਰ- ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਨੇ ਕਸ਼ਮੀਰ ਵਿਖੇ ਮੁੱਖ ਪ੍ਰਬੰਧਕ ਅਤੇ ਫ਼ੌਜ ਦੇ ਮੁਖੀ ਦੇ ਅਹੁਦੇ 'ਤੇ ਕੰਮ ਕੀਤਾ।

2. ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਵੱਡੇ ਰੂਪ ਵਿੱਚ ਲਿਖੋ।

(ੳ) ਹਰੀ ਸਿੰਘ ਨਲਵੇ ਦੇ ਮਾਤਾ -ਪਿਤਾ ,ਜਨਮ ਅਤੇ ਬਚਪਨ ਬਾਰੇ ਲਿਖੋ।

ਉੱਤਰ-ਹਰੀ ਸਿੰਘ ਨਲਵੇ ਦਾ ਜਨਮ 1791 ਈ: ਨੂੰ ਗੁਜਰਾਂ ਵਾਲਾ ਵਿਖੇ ਹੋਇਆ। ਇਨ੍ਹਾਂ ਦੇ ਪਿਤਾ ਦਾ ਨਾਮ ਸਰਦਾਰ ਗੁਰਦਿਆਲ ਸਿੰਘ ਅਤੇ ਮਾਤਾ ਦਾ ਨਾਮ ਧਰਮ ਕੌਰ ਸੀ ।ਆਪ ਨੇ ਛੋਟੀ ਉਮਰ ਵਿੱਚ ਹੀ ਪੰਜਾਬੀ ਅਤੇ ਫ਼ਾਰਸੀ ਭਾਸ਼ਾਵਾਂ ਸਿੱਖ ਲਈਆਂ ਸਨ। ਆਪ ਬਚਪਨ ਤੋਂ ਹੀ ਗੰਭੀਰ ਸੁਭਾਅ ਦੇ ਸਨ ਅਤੇ ਆਪਣਾ ਜ਼ਿਆਦਾ ਸਮਾਂ ਗਤਕਾ ਖੇਡਣ ਅਤੇ ਸ਼ਸ਼ਤਰ ਵਿੱਦਿਆ ਸਿੱਖਣ ਵਿੱਚ ਬਤੀਤ ਕਰਦੇ ਸਨ। ਬਚਪਨ ਵਿੱਚ ਹੀ ਆਪ ਜੀ ਦੇ ਪਿਤਾ ਜੀ ਦੀ ਮੌਤ ਹੋ ਜਾਣ ਕਾਰਨ ਆਪ ਦਾ ਪਾਲਣ -ਪੋਸ਼ਣ ਆਪ ਦੀ ਮਾਤਾ ਅਤੇ ਮਾਮਾ ਜੀ ਨੇ ਕੀਤਾ।

(ਅ) ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਸ਼ਬਦ ਕਿਵੇਂ ਜੁੜਿਆ?

ਉੱਤਰ-ਇਕ ਦਿਨ ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਸ਼ਿਕਾਰ ਖੇਡਣ ਲਈ ਜੰਗਲ ਵਿੱਚ ਦੂਰ ਨਿਕਲ ਗਏ। ਹਰੀ ਸਿੰਘ ਵੀ ਉਸ ਵੇਲੇ ਮਹਾਰਾਜਾ ਦੇ ਨਾਲ ਸੀ। ਅਚਾਨਕ ਇੱਕ ਸ਼ੇਰ ਨੇ ਮਹਾਰਾਜਾ 'ਤੇ ਹਮਲਾ ਕਰ ਦਿੱਤਾ। ਹਰੀ ਸਿੰਘ ਨੇ ਅੱਗੋ ਵਧ ਕੇ ਸ਼ੇਰ ਨੂੰ ਇੱਕ ਹੀ ਵਾਰ ਵਿੱਚ ਮਾਰ ਦਿੱਤਾ। ਬਾਅਦ ਵਿੱਚ ਉਸ ਦੇ ਟੋਟੇ ਟੋਟੇ ਕਰ ਦਿੱਤੇ। ਉਸ ਵੇਲੇ ਰਾਜਾ ਦੇ ਮੂੰਹੋਂ ਨਿਕਲਿਆ, 'ਵਾਹ !ਮੇਰੇ ਨਲਵੇ ਸਰਦਾਰ !' ਅਰਥਾਤ ਰਾਜਾ ਨਲ ਦੀ ਤਰ੍ਹਾਂ ਸ਼ੇਰ ਨਾਲ ਟਾਕਰਾ ਕਰਨ ਵਾਲਾ। ਇਸ ਤਰ੍ਹਾਂ ਮਹਾਰਾਜਾ ਦੇ ਨਲਵਾ ਕਹਿਣ ਤੋਂ ਬਾਅਦ ਇਹ ਸ਼ਬਦ ਹਰੀ ਸਿੰਘ ਦੇ ਨਾਂ ਨਾਲ ਹਮੇਸ਼ਾਂ ਲਈ ਜੁੜ ਗਿਆ।

(ੲ) ਹਰੀ ਸਿੰਘ ਨਲਵੇ ਨੇ ਮੁਲਤਾਨ ਦੀ ਲੜਾਈ ਕਿਵੇਂ ਜਿੱਤੀ?

ਉੱਤਰ-ਹਰੀ ਸਿੰਘ ਦੇ ਜੀਵਨ ਵਿੱਚ ਮੁਲਤਾਨ ਦੀ ਲੜਾਈ ਬਹੁਤ ਮਹੱਤਵ ਰੱਖਦੀ ਹੈ ।ਮੁਲਤਾਨ ਦੇ ਕਿਲ੍ਹੇ ਦੀ ਕੰਧ ਬਹੁਤ ਮਜ਼ਬੂਤ ਸੀ। ਜਦੋਂ ਕਿਲ੍ਹੇ ਦੀ ਕੰਧ ਤੋਪਾਂ ਨਾਲ ਨਾ ਡਿੱਗੀ ਤਾਂ ਨਲਵੇ ਨੇ ਉਸ ਨੂੰ ਬਾਰੂਦ ਨਾਲ ਉਡਾਉਣ ਦਾ ਫ਼ੈਸਲਾ ਕੀਤਾ। ਉਹ ਫ਼ੌਜਾਂ ਦੀ ਅਗਵਾਈ ਕਰਦਾ ਹੋਇਆ ਫ਼ਾਤੀ ਤਾਣ ਕੇ ਅੱਗੇ ਵਧਿਆ। ਕਿਲ੍ਹੇ ਦੀ ਕੰਧ ਰੇਤ ਦਾ ਢੇਰ ਬਣ ਗਈ। ਭਾਵੇਂ ਇਸ ਵਿੱਚ ਨਲਵਾ ਸਖ਼ਤ ਰੂਪ ਵਿੱਚ ਜ਼ਖਮੀ ਹੋ ਗਿਆ ਪ੍ਰੰਤੂ ਮੁਲਤਾਨ 'ਤੇ ਸਦਾ ਲਈ ਮਹਾਰਾਜੇ ਦਾ ਕਬਜ਼ਾ ਹੋ ਗਿਆ।

(ਸ) ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਸ਼ਹੀਦ ਕਦੋਂ ਤੇ ਕਿਵੇਂ ਹੋਇਆ?

ਉੱਤਰ-1837ਈ: ਵਿੱਚ ਅਫ਼ਗਾਨਾਂ ਤੇ ਪਠਾਣਾਂ ਨੇ ਰਲ ਕੇ ਜਮਰੌਦ ਦੇ ਕਿਲ੍ਹੇ ਉੱਤੇ ਹਮਲਾ ਕਰ ਦਿੱਤਾ । ਭਾਵੇਂ ਉਨ੍ਹੀਂ ਦਿਨੀਂ ਹਰੀ ਸਿੰਘ ਨਲੂਆ ਬਿਮਾਰ ਸੀ ਫਿਰ ਵੀ ਉਸ ਨੇ ਬਿਮਾਰੀ ਦੀ ਪਰਵਾਹ ਨਾ ਕਰਦਿਆਂ ਦੁਸ਼ਮਣ ਦਾ ਡੱਟ ਕੇ ਮੁਕਾਬਲਾ ਕੀਤਾ ਅਫ਼ਗਾਨ ਘਬਰਾ ਕੇ ਮਦਾਨ ਛੱਡ ਗਏ ਨਲਵੇ ਸਰਦਾਰ ਨੇ ਉਨ੍ਹਾਂ ਦੇ ਪਿੱਛੇ ਘੋੜਾ ਦੌੜਾਇਆ। ਜਦੋਂ ਉਹ ਘੋੜਾ ਭਜਾਈ ਜਾ ਰਿਹਾ ਸੀ ਤਾਂ ਇੱਕ ਪਠਾਣ ਨੇ ਲੁੱਕ ਕੇ ਉਸ 'ਤੇ ਗੋਲੀ ਚਲਾ ਦਿੱਤੀ। ਨਲਵਾ ਸਰਦਾਰ ਬੁਰੀ ਤਰ੍ਹਾਂ ਜ਼ਖਮੀ ਹੋ ਗਿਆ ਪਰ ਜਮਰੌਦ ਦੇ ਕਿਲ੍ਹੇ ਤੱਕ ਪਹੁੰਚ ਗਿਆ ਕਿਲ੍ਹੇ ਵਿੱਚ ਪਹੁੰਚਣ ਤੱਕ ਉਹ ਸ਼ਹੀਦ ਹੋ ਚੁੱਕਾ ਸੀ।

3. ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ/ ਮੁਹਾਵਰਿਆਂ ਨੂੰ ਵਾਕਾਂ ਵਿੱਚ ਵਰਤੋ।

1. ਅਹੁਦਾ -ਮੇਰੇ ਪਿਤਾ ਜੀ ਇੱਕ ਚੰਗੇ ਅਹੁਦੇ 'ਤੇ ਕੰਮ ਕਰਦੇ ਹਨ।

2. ਜਾਂਬਾਜ਼-ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਇੱਕ ਜਾਂਬਾਜ਼ ਯੋਧਾ ਸੀ।

3.ਦਹਿਸ਼ਤ-ਪਠਾਣਾਂ ਵਿੱਚ ਹਰੀ ਸਿੰਘ ਨਲਵੇ ਦੀ ਬਹੁਤ ਦਹਿਸ਼ਤ ਸੀ।

4. ਪ੍ਰਲੋਕ ਸਿਧਾਰਨਾ -ਬਚਪਨ ਵਿੱਚ ਹੀ ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਦੇ ਪਿਤਾ ਜੀ ਪ੍ਰਲੋਕ ਸਿਧਾਰ ਗਏ।

5. ਲਿਆਕਤ-ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਹਰੀ ਸਿੰਘ ਨਲਵੇ ਦੀ ਲਿਆਕਤ ਤੋਂ ਬਹੁਤ ਖੁਸ਼ ਹੋਏ।

6. ਅੰਗ ਰੱਖਿਅਕ-ਹਰੀ ਸਿੰਘ ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਦਾ ਅੰਗ-ਰੱਖਿਅਕ ਸੀ।

7. ਚਿੱਤ ਕਰਨਾ-ਹਰੀ ਸਿੰਘ ਨਲਵੇ ਨੇ ਸ਼ੇਰ ਨੂੰ ਇੱਕ ਹੀ ਵਾਰ ਵਿੱਚ ਚਿੱਤ ਕਰ ਦਿੱਤਾ।

8. ਹੱਥ ਪਾਉਣਾ-ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਨੇ ਸਭ ਤੋਂ ਪਹਿਲਾਂ ਪਠਾਣੀ ਰਿਆਸਤਾਂ ਨੂੰ ਹੱਥ ਪਾਇਆ।

9. ਫਤਿਹ ਬੁਲਾਉਣਾ-ਹਰੀ ਸਿੰਘ ਨਲਵੇ ਦੀ ਕਮਾਨ ਵਿੱਚ ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਨੇ ਹਰ ਮੈਦਾਨ ਫਤਹਿ ਬੁਲਾਇਆ ।

10. ਛਾਤੀ ਤਾਣ ਕੇ-ਹਰੀ ਸਿੰਘ ਨਲਵਾ ਹਰ ਲੜਾਈ ਛਾਤੀ ਤਾਣ ਕੇ ਲੜਿਆ।

1) ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਇਕ ਦੋ ਲਾਈਨਾਂ ਵਿੱਚ ਲਿਖੋ।

(ੳ) ਘਰਾਂ ਦੇ ਵਿਹੜੇ ਖ਼ੁਸ਼ੀਆਂ ਨਾਲ ਭਰੇ ਰਹਿਣ ਤੋਂ ਕੀ ਭਾਵ ਹੈ?

ਉੱਤਰ-ਘਰਾਂ ਦੇ ਵਿਹੜੇ ਖ਼ੁਸ਼ੀਆਂ ਨਾਲ ਭਰੇ ਰਹਿਣ ਤੋਂ ਭਾਵ ਹੈ ਕਿ ਹਰ ਘਰ ਵਿੱਚ ਖ਼ੁਸ਼ਹਾਲੀ ਹੋਵੇ ਅਤੇ ਸਾਰੇ ਲੋਕ ਸੁਖੀ ਵੱਸਣ।

(ਅ) ਕਿਹੜੀ ਚੀਜ਼ ਹਰ ਥਾਂ 'ਤੇ ਲੱਗੀ ਸੋਹਣੀ ਲਗਦੀ ਹੈ?

ਉੱਤਰ-ਫੁੱਲ ਬੂਟੇ ਹਰ ਥਾਂ 'ਤੇ ਲੱਗੇ ਸੋਹਣੇ ਲੱਗਦੇ ਹਨ।

(ੲ) ਖੇਤਾਂ ਵਿੱਚ ਫਸਲਾਂ ਦੇ ਚੰਗੇ ਹੋਣ ਨਾਲ ਕੀ ਦੂਰ ਹੋ ਸਕਦੀ ਹੈ?

ਉੱਤਰ-ਖੇਤਾਂ ਵਿੱਚ ਫਸਲਾਂ ਦੇ ਚੰਗੇ ਹੋਣ ਨਾਲ ਭੁੱਖ, ਗਰੀਬੀ ਅਤੇ ਤੰਗੀ ਦੂਰ ਹੋ ਸਕਦੀ ਹੈ।

(ਸ) ਜਿੱਥੇ ਛੋਟਾ ਪਰਿਵਾਰ ਹੈ, ਉੱਥੇ ਕਿਹੜੀ ਚੀਜ਼ ਵੱਸਦੀ ਨਜ਼ਰ ਆਉਂਦੀ ਹੈ?

ਉੱਤਰ-ਜਿੱਥੇ ਛੋਟਾ ਪਰਿਵਾਰ ਹੈ, ਉੱਥੇ ਸਦਾ ਖ਼ੁਸ਼ੀ ਵੱਸਦੀ ਨਜ਼ਰ ਆਉਂਦੀ ਹੈ।

(ਹ) ਕਿਹੜੇ ਬੱਚੇ ਪੜ੍ਹਾਈ ਚਾਵਾਂ ਨਾਲ ਕਰ ਸਕਦੇ ਹਨ?

ਉੱਤਰ-ਚੰਗੀ ਸਿਹਤ ਵਾਲੇ ਬੱਚੇ ਪੜ੍ਹਾਈ ਚਾਵਾਂ ਨਾਲ ਕਰ ਸਕਦੇ ਹਨ।

(ਕ) ਜੇ ਅਬਾਦੀ ਇਸੇ ਤਰ੍ਹਾਂ ਵਧਦੀ ਰਹੀ ਤਾਂ ਕੀ ਨੁਕਸਾਨ ਹੋਵੇਗਾ?

ਉੱਤਰ-ਜੇ ਅਬਾਦੀ ਇਸੇ ਤਰ੍ਹਾਂ ਵਧਦੀ ਰਹੀ ਤਾਂ ਧਰਤੀ ਉੱਤੇ ਮਨੁੱਖ ਦਾ ਬੁਰਾ ਹਾਲ ਹੋ ਜਾਵੇਗਾ ਅਤੇ ਪੈਰ ਰੱਖਣ ਨੂੰ ਵੀ ਥਾਂ ਨਹੀਂ ਲੱਭੇਗਾ।

2) ਹੇਠ ਲਿਖੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਵੱਡੇ ਰੂਪ ਵਿੱਚ ਲਿਖੋ।

(ੳ)ਇਸ ਕਵਿਤਾ ਵਿੱਚ ਕਵੀ ਨੇ ਸਮੇਂ ਦੇ ਨਾਲ-ਨਾਲ ਕਿਹੜੀਆਂ ਚੀਜ਼ਾਂ 'ਤੇ ਅਮਲ ਕਰਨ ਲਈ ਕਿਹਾ ਹੈ?

ਉੱਤਰ-ਇਸ ਕਵਿਤਾ ਵਿੱਚ ਕਵੀ ਨੇ ਸਮੇਂ ਦੀ ਠੀਕ ਵਰਤੋਂ ਕਰਨ , ਸੋਹਣੇ ਘਰਾਂ ਦੀ ਉਸਾਰੀ ਕਰਨ, ਫੁੱਲ ਬੂਟੇ ਲਾਉਣ, ਚੰਗੀਆਂ ਫ਼ਸਲਾਂ ਲਈ ਨਵੀਂ ਖੇਤੀ ਬਾਰੇ ਸਿੱਖਿਆ ਪ੍ਰਾਪਤ ਕਰਨ ਅਤੇ ਵਧਦੀ ਅਬਾਦੀ ਨੂੰ ਘਟਾਉਣ 'ਤੇ ਅਮਲ ਕਰਨ ਲਈ ਕਿਹਾ ਹੈ।

(ਅ) 'ਜ਼ਮਾਨਿਆਂ ਦੇ ਨਵਾਂ ਮੋੜ ਕੱਟਣ ਤੋਂ ਕੀ ਭਾਵ ਹੈ?

ਉੱਤਰ-ਜ਼ਮਾਨਿਆਂ ਦੇ ਨਵਾਂ ਮੋੜ ਕੱਟਣ ਤੋਂ ਭਾਵ ਹੈ ਕਿ ਸਮਾਜ ਵਿੱਚ ਨਵੇਂ ਵਿਚਾਰਾਂ ਅਤੇ ਸੋਚ ਦਾ ਆਉਣਾ। ਜਿਸ ਨਾਲ ਸਮਾਜ ਤਰੱਕੀ ਦੀ ਰਾਹ ਵੱਲ ਵਧਦਾ ਹੈ। ਇਸ ਲਈ ਪਿਛਲੀਆਂ ਗੱਲਾਂ ਨੂੰ ਭੁੱਲ ਕੇ ਨਵੀਆਂ ਗੱਲਾਂ ਨੂੰ ਅਪਨਾਉਣਾ ਚਾਹੀਦਾ ਹੈ ਅਤੇ ਸਮੇਂ ਦਾ ਹਾਣੀ ਬਣ ਕੇ ਜਿਉਣਾ ਚਾਹੀਦਾ ਹੈ।

ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ

1.ਸੰਕੇਤ-ਸਮੇਂ ਨੂੰ ਸੰਭਾਲ----ਸੰਭਾਲ ਓਏ।

ਪ੍ਰਸੰਗ-ਇਹ ਕਾਵਿ- ਟੋਟਾ ਸਾਡੀ ਪੰਜਾਬੀ ਦੀ ਪਾਠ ਪੁਸਤਕ 'ਫੁਲਵਾੜੀ ਪੰਜਾਬੀ ਪਾਠ ਮਾਲਾ' ਵਿੱਚ ਦਰਜ 'ਮਨਮੋਹਨ ਸਿੰਘ ਦਾਉ' ਦੀ ਲਿਖੀ ਕਵਿਤਾ 'ਸਮੇਂ ਨੂੰ ਸੰਭਾਲ' ਵਿੱਚੋਂ ਲਿਆ ਗਿਆ

ਹੈ। ਇਸ ਕਵਿਤਾ ਵਿੱਚ ਕਵੀ ਨੇ ਸਮੇਂ ਦਾ ਸਦ-ਉਪਯੋਗ ਕਰਨ ਦੇ ਨਾਲ-ਨਾਲ ਦੇਸ ਦੀ ਵਧਦੀ ਹੋਈ ਅਬਾਦੀ 'ਤੇ ਕਾਬੂ ਪਾਉਣ ਦਾ ਸੰਦੇਸ਼ ਦਿੱਤਾ ਹੈ। ਇਸ ਦੇ ਨਾਲ ਹੀ ਨਵੀਂ ਸਿੱਖਿਆ ਅਤੇ ਨਵੇਂ ਵਿਚਾਰਾਂ ਨੂੰ ਅਪਨਾਉਣ ਲਈ ਕਿਹਾ ਹੈ।

<u>ਵਿਆਖਿਆ</u>-ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਮਨੁੱਖ ਨੂੰ ਸਮੇਂ ਦੀ ਠੀਕ ਵਰਤੋਂ ਕਰਨ ਦਾ ਸੰਦੇਸ਼ ਦਿੰਦਾ ਹੋਇਆ ਕਹਿੰਦਾ ਹੈ ਕਿ ਹੇ ਮਨੁੱਖ,ਤੂੰ ਸਮੇਂ ਨੂੰ ਸੰਭਾਲ ਅਰਥਾਤ ਸਮੇਂ ਅਨੁਸਾਰ ਕੰਮ ਕਰ। ਜੇਕਰ ਸਮੇਂ ਦੀ ਠੀਕ ਵਰਤੋਂ ਕੀਤੀ ਜਾਵੇ ਤਾਂ ਲੋਕ ਸੁਖੀ ਜੀਵਨ ਜਿਉਂਦੇ ਹਨ ਅਤੇ ਕਦੇ ਗ਼ਰੀਬ ਨਹੀਂ ਰਹਿੰਦੇ ਇਸ ਲਈ ਆਓ ਸੋਹਣੇ ਅਤੇ ਵਧੀਆ ਘਰ ਬਣਾਈਏ ਅਤੇ ਹਰ ਘਰ ਦੇ ਵਿਹੜੇ ਨੂੰ ਖੁਸ਼ੀਆਂ ਨਾਲ ਭਰ ਦੇਈਏ। ਸਾਫ਼-ਸੁਥਰੇ ਘਰ ਸਭ ਨੂੰ ਚੰਗੇ ਲੱਗਦੇ ਹਨ। ਇਸ ਦੇ ਨਾਲ ਹੀ ਕਵੀ ਫੁੱਲ ਬੂਟੇ ਲਾਉਣ ਲਈ ਕਹਿੰਦਾ ਹੈ ਕਿਉਂਕਿ ਇਹ ਆਲੇ-ਦੁਆਲੇ ਨੂੰ ਸੁੰਦਰ ਬਣਾਉਂਦੇ ਹਨ ਅਤੇ ਹਵਾ ਨੂੰ ਸ਼ੁੱਧ ਕਰਦੇ ਹਨ।

2. ਸੰਕੇਤ-ਨਵੀਂ ਖੇਤੀ ਲਈ ---------ਸੰਭਾਲ ਓਏ।
ਪ੍ਰਸੰਗ-same
ਵਿਆਖਿਆ-ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਸਮੇਂ ਦੀ ਠੀਕ ਵਰਤੋਂ ਕਰਨ ਨੂੰ ਦਾ ਸੰਦੇਸ਼ ਦਿੰਦਾ ਹੋਇਆ ਕਹਿੰਦਾ ਹੈ ਕਿ ਅੱਜ ਸਮਾਜ ਵਿੱਚ ਨਵੇਂ-ਨਵੇਂ ਵਿਚਾਰ ਆ ਗਏ ਹਨ ਜਿਸ ਨਾਲ ਖੇਤੀ ਕਰਨ ਅਤੇ ਹੋਰ ਕੰਮ ਕਰਨ ਦੇ ਢੰਗ ਬਦਲ ਗਏ ਹਨ। ਇਸ ਲਈ ਸਾਨੂੰ ਨਵੀਂ ਸਿੱਖਿਆ ਦੀ ਲੋੜ ਹੈ। ਜੇਕਰ ਖੇਤੀ ਦੇ ਨਵੇਂ ਢੰਗ ਅਪਣਾਏ ਜਾਣ ਤਾਂ ਫਸਲਾਂ ਚੰਗੀਆਂ ਹੋਣਗੀਆਂ, ਜਿਸ ਨਾਲ ਭੁੱਖ ਗ਼ਰੀਬੀ ਅਤੇ ਤੰਗੀ ਦੂਰ ਹੋ ਜਾਵੇਗੀ ਅਤੇ ਖੁਸ਼ਹਾਲੀ ਆਵੇਗੀ।

ਖੁਸ਼ੀ ਵਿੱਚ ਲੋਕ ਗਿੱਧੇ ਅਤੇ ਭੰਗੜੇ ਪਾਉਣਗੇ ਅਰਥਾਤ ਖੁਸ਼ੀਆਂ ਮਨਾਈਆਂ ਜਾਣਗੀਆਂ।

3. ਸੰਕੇਤ-ਛੋਟਾ ਪਰਿਵਾਰ---

ਸਮੇਂ ਨੂੰ ਸੰਭਾਲ ਓਏ।

ਪ੍ਰਸੰਗ -same

ਵਿਆਖਿਆ-ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਸਮੇਂ ਦੀ ਠੀਕ ਵਰਤੋਂ ਕਰਨ ਦਾ ਸੰਦੇਸ਼ ਦਿੰਦੇ ਹੋਏ ਕਹਿੰਦਾ ਹੈ ਕਿ ਅੱਜ ਸਾਡੇ ਕੋਲ ਸਮਾਂ ਹੈ, ਅਸੀਂ ਆਪਣੇ ਦੇਸ ਦੀ ਵਸੋਂ ਘਟਾ ਸਕਦੇ ਹਾਂ ਕਿਉਂਕਿ ਜਿੱਥੇ ਛੋਟਾ ਪਰਿਵਾਰ ਹੁੰਦਾ ਹੈ, ਉੱਥੇ ਖੁਸ਼ੀ ਵਸਦੀ ਹੈ। ਉਹ ਪਰਿਵਾਰ ਫੁੱਲਾਂ ਵਾਂਗ ਖੁਸ਼ਹਾਲ ਹੁੰਦਾ ਹੈ। ਇਸ ਦੇ ਨਾਲ ਹੀ ਕਵੀ ਬੱਚਿਆਂ ਦੀ ਚੰਗੀ ਦੇਖ- ਭਾਲ ਕਰਨ ਦਾ ਵੀ ਸੰਦੇਸ਼ ਦਿੰਦਾ ਹੈ ਕਿਉਂਕਿ ਚੰਗੀ ਸਿਹਤ ਵਾਲੇ ਬੱਚੇ ਹੀ ਵਧੀਆ ਪੜ੍ਹਾਈ ਕਰ ਸਕਦੇ ਹਨ। ਜਿਸ ਨਾਲ ਦੇਸ ਤਰੱਕੀ ਕਰ ਸਕਦਾ ਹੈ।

4. ਸੰਕੇਤ-ਸਮਿਆਂ ਦੀ ਮੰਗ---ਸੰਭਾਲ ਓਏ।

ਪ੍ਰਸੰਗ-same

ਉੱਤਰ-ਇਹਨਾਂ ਸਤਰਾਂ ਵਿੱਚ ਕਵੀ ਸਮੇਂ ਦੀ ਸੰਭਾਲ ਕਰਨ ਦਾ ਸੰਦੇਸ਼ ਦਿੰਦੇ ਹੋਏ ਕਹਿੰਦਾ ਹੈ ਕਿ ਅੱਜ ਸਮੇਂ ਦੀ ਮੰਗ ਹੈ ਕਿ ਅਸੀਂ ਆਪਣੀ ਵਧਦੀ ਵਸੋਂ ਤੇ ਰੋਕ ਲਗਾਈਏ। ਜੇਕਰ ਅਸੀਂ ਅਜਿਹਾ ਨਾ ਕੀਤਾ ਤਾਂ ਧਰਤੀ ਰਹਿਣ ਲਈ ਸੋਹਣੀ ਥਾਂ ਨਹੀਂ ਰਹੇਗੀ। ਧਰਤੀ ਉੱਤੇ ਵਸੋਂ ਇੰਨੀ ਵੱਧ ਜਾਵੇਗੀ ਕਿ ਮਨੁੱਖ ਲਈ ਘੁੰਮਣਾ ਫਿਰਨਾ ਤਾਂ ਦੂਰ ਦੀ ਗੱਲ ਹੈ, ਪੈਰ ਰੱਖਣ ਲਈ ਥਾਂ ਵੀ ਨਹੀਂ ਮਿਲੇਗੀ ਅਤੇ ਇਸ ਵਧਦੀ ਅਬਾਦੀ ਨਾਲ ਮਨੁੱਖ ਦਾ ਧਰਤੀ ਉੱਤੇ ਬੁਰਾ ਹਾਲ ਹੋ ਜਾਵੇਗਾ। ਇਸ ਲਈ ਸਾਨੂੰ ਸਮੇਂ ਦਾ

ਸਦ-ਉਪਯੋਗ ਕਰਦੇ ਹੋਏ ਵਧਦੀ ਆਬਾਦੀ 'ਤੇ ਰੋਕ ਲਾਉਣੀ ਚਾਹੀਦੀ ਹੈ।

4) ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ ਮੁਹਾਵਰਿਆਂ ਨੂੰ ਵਾਕਾ ਵਿੱਚ ਵਰਤੋ-

1. <u>ਕੰਗਾਲ-</u>ਉਹ ਬੈਂਕ ਦਾ ਕਰਜ਼ਾ ਉਤਾਰਦਾ- ਉਤਾਰਦਾ ਕੰਗਾਲ ਹੋ ਗਿਆ।

2. ਸਾਫ਼-ਸੁਥਰਾ- ਘਰ ਹਮੇਸ਼ਾ ਸਾਫ਼-ਸੁਥਰਾ ਹੋਣਾ ਚਾਹੀਦਾ ਹੈ।

3. <u>ਛੋਟਾ ਪਰਿਵਾਰ-</u> ਛੋਟਾ ਪਰਿਵਾਰ ਸੁਖੀ ਪਰਿਵਾਰ ਹੁੰਦਾ ਹੈ।

4. <u>ਤਾਲ-</u> ਸ਼ਾਮ ਢੋਲ ਦੀ ਤਾਲ 'ਤੇ ਭੰਗੜਾ ਪਾਉਂਦਾ ਹੈ।

5. <u>ਵਧਦੀ ਵਸੋਂ-</u> ਵਧਦੀ ਵਸੋਂ ਚਿੰਤਾ ਦਾ ਵਿਸ਼ਾ ਹੈ।

6. <u>ਮੰਦਾ-</u> ਕਿਸੇ ਨੂੰ ਮੰਦਾ ਨਹੀਂ ਬੋਲਣਾ ਚਾਹੀਦਾ।

CLASS - 8 th

III. TERM SYLLABUS OF HINDI

भाषा भारती

हिंदी पाठ्यपुस्तक

ईर्ष्या , तू न गई मेरे मन से

9

(The presence of jealousy in our mind)

अभ्यास Exercise

पाठ को जानें (Know the Lesson)

◆ **मौखिक विश्लेषण कीजिए– (Oral analysis)**

1. जिस मनुष्य के हृदय में ईर्ष्या घर बना लेती है, वह कैसा हो जाता है ? ईर्ष्यालु हो जाता है। वह उन चीज़ों से खुश नहीं होता जो उसके पास हैं, बल्कि उन चीज़ों से दुखी होता है जो दूसरों के पास हैं।

2. ईर्ष्या किसको जलाती है ? उसको जलाती है, जिसके हृदय में उसका जन्म होता है।

3. ईर्ष्या चिंता से भी बदतर क्यों है ? इसलिए, क्योंकि वह मनुष्य के मौलिक गुणों को गतिहीन बना देती है।

4. ईर्ष्या से बचने का उपाय क्या है ? मानसिक अनुशासन है।

◆ **बहुविकल्पीय प्रश्न (MCQs)**

सही उत्तर वाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. लेखक ने 'ईर्ष्या की बड़ी बेटी' किसे कहा है ?

(i) चिंता को ☐　(ii) निंदा को ☑　(iii) चिता को ☐　(iv) दुविधा को ☐

2. 'चिंता' को लोग क्या कहते हैं ?

(i) मज़ा ☐　(ii) चिता ☑　(iii) दवाई ☐　(iv) बाण ☐

3. नीत्से ने ईर्ष्यालु लोगों को क्या कहा है ?

(i) कुएँ का मेंढक ☐　(ii) बिल का साँप ☐

(iii) बाज़ार की मक्खियाँ ☑　(iv) खेत की सब्ज़ियाँ ☐

◆ **लघु उत्तरीय प्रश्न– (Short answer-type questions)**

1. ईर्ष्यालु दूसरों की निंदा क्यों करता है ?

इसलिए करता है कि ऐसा करने से दूसरे लोग जनता अथवा मित्रों की आँखों से गिर जाएँगे और जो स्थान खाली होगा, उस पर वह अनायास ही बैठा दिया जाएगा।

2. मनुष्य के पतन का कारण क्या है ?

मनुष्य के पतन का कारण सद्गुणों की कमी होना है।

3. ईर्ष्यालु व्यक्ति का सबसे बड़ा पुरस्कार क्या है ?

निंदा के बाण से अपने प्रतिद्वंद्वियों को बेधकर हँसने में जो आनंद मिलता है, वही आनंद ईर्ष्यालु व्यक्ति का सबसे बड़ा पुरस्कार है।

4. नेपोलियन किससे स्पर्धा करता था ?

नेपोलियन सीजर से स्पर्धा करता था।

5. ईश्वरचंद्र विद्यासागर ने निंदा के विषय में क्या कहा है ?

ईश्वरचंद्र विद्यासागर ने निंदा के विषय में कहा है कि तुम्हारी निंदा वही करेगा, जिसकी तुमने भलाई की है।

दीर्घ उत्तरीय प्रश्न

प्रश्न. रामधारी सिंह 'दिनकर' ने ईर्ष्या का अनोखा वरदान क्या बताया है?

उत्तर. रामधारी सिंह 'दिनकर' ने ईर्ष्या का अनोखा वरदान यह बताया है कि जिस मनुष्य के हृदय में ईर्ष्या घर बना लेती है, वह उन चीज़ों से आनंद नहीं उठाता जो उसके पास मौजूद हैं, बल्कि उन वस्तुओं से दुख उठाता है जो दूसरों के पास हैं। वह अपनी तुलना दूसरों के साथ करता है और अपने पक्ष में होने वाली कमी हमेशा उसे बुरी लगती है।

प्रश्न२. कौन-सी बात ईर्ष्या के पक्ष में है और कैसे?

उत्तर२. ईर्ष्या का संबंध प्रतिद्वंद्विता से होता है और प्रतिद्वंद्वियों से मनुष्य का विकास होता है। यही बात ईर्ष्या के पक्ष में है। इस बात के अधीन होकर हर आदमी, हर जाति और हर दल अपने आपको अपने प्रतियोगी के बराबर बनाना चाहता है। ऐसा करने के लिए वह अपनी स्थिति में सुधार लाने की कोशिश करेगा लेकिन यह तभी हो सकता है कि जो प्रेरणा उसे ईर्ष्या से मिलती है, वह रचनात्मक हो।

प्रश्न3. ईर्ष्या और ईर्ष्यालु व्यक्तियों से बचने का क्या उपाय है?

उत्तर3. लेखक के अनुसार ईर्ष्यालु व्यक्तियों से अकेले में और शोहरत से दूर रह कर बचा जा सकता है और ईर्ष्या से बचने का उपाय मानसिक अनुशासन है।

अब भाषा की बात (About the Language)

◆ आप जानते हैं कि रचना के आधार पर वाक्य के तीन भेद होते हैं– (You know that there are three types of sentences on the basis of construction.)

(i) सरल वाक्य (simple) (ii) संयुक्त वाक्य (compound) (iii) मिश्रित वाक्य (complex)

◆ **नीचे लिखे वाक्यों को निर्देशानुसार परिवर्तित कीजिए–** (Change the following sentences as indicated.)

1. जैसे ही हम स्टेशन पहुँचे, गाड़ी चल पड़ी थी।   (सरल वाक्य)

हमारे स्टेशन पहुँचते ही गाड़ी चल पड़ी थी।

2. छुट्टी होते ही राहुल सीधा घर गया। (संयुक्त वाक्य)
   छुट्टी हुई और राहुल सीधा घर गया

3. सभा में पहुँचने पर हमारी बहुत आवभगत हुई। (मिश्रित वाक्य)
   जब हम सभा में पहुँचे तो हमारी बहुत आवभगत हुई।

4. मैंने खाना खाया और सोने चला गया। (सरल वाक्य)
   खाना खाते ही मैं सोने चला गया।

5. नेता ने भाषण दिया ही था कि लोग शोर मचाने लगे। (सरल वाक्य)
   नेता के भाषण देते ही लोग शोर मचाने लगे।

6. मेरे पास प्रेरणादायक कहानियों की एक किताब है। (मिश्रित वाक्य)
   मेरे पास एक किताब है जो प्रेरणादायक कहानियों की है।

◆ 'ईर्ष्या' भाववाचक संज्ञा शब्द है और 'ईर्ष्यालु' विशेषण शब्द है। इसी प्रकार नीचे दिए गए शब्दों से विशेषण बनाइए– ('ईर्ष्या' is an abstract noun and 'ईर्ष्यालु' is an adjective. You make adjectives from the given words.)

निंदा	*निंदनीय*	ज़हर	*ज़हरीला*
अनुशासन	*अनुशासित*	चिंता	*चिंतनीय*
जादू	*जादुई*	दया	*दयालु*

◆ बहुविकल्पीय प्रश्न (MCQs)

सही उत्तर वाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. 'आनंद' का विलोम है–
   (i) हर्ष ☐ (ii) शोक ☑ (iii) मज़ा ☐ (iv) चिंता ☐

2. 'प्रशंसा' का विलोम है–
   (i) चिंता ☐ (ii) ईर्ष्या ☐ (iii) निंदा ☑ (iv) स्वार्थी ☐

3. 'निंदा करने वाला' कहलाता है–
   (i) निंदक ☑ (ii) निंदनीय ☐ (iii) निंदारस ☐ (iv) निंदावान ☐

रचनात्मक गतिविधियाँ
Creative Activities

◆ ईर्ष्या और निंदा से दूर रहने की प्रेरणा देने वाली कुछ सूक्तियाँ एक बड़े चार्ट पेपर पर सुंदर अक्षरों में लिखकर अपनी कक्षा अथवा विद्यालय प्रांगण में लगाइए।

(Write some quotations on a chart paper that apart us from Jealousy and condemnation. Hang this chart paper in your class or school.)

ललकार
(Challenge)

अभ्यास
Exercise

पाठ को जानें (Know the Lesson)

◆ **मौखिक विश्लेषण कीजिए–** (Oral analysis)

1. पर्वतारोहण का आरंभ कब हुआ ? *सोलहवीं शताब्दी में हुआ।*

2. पर्वतारोहण को प्रमुख रूप से किन देशों ने बढ़ावा दिया ? *स्विट्ज़रलैंड और जर्मनी ने बढ़ावा दिया।*

3. पर्वतारोहण मुख्य रूप से कितने प्रकार का होता है ? एक तो चट्टानों वाले पर्वतों पर चढ़ना और दूसरा बर्फीले पहाड़ों पर चढ़ना। दो प्रकार का होता है—

4. हिमालय की पहाड़ी 'शिकार' पर सबसे पहले किसने विजय प्राप्त की ? विदेशी पर्वतारोही डब्ल्यू. डब्ल्यू. ग्राहम ने

◆ बहुविकल्पीय प्रश्न (MCQs)

◆ सही उत्तर वाले विकल्प पर ✓ लगाइए— (Tick (✓) the correct answer.)

1. यूरोप के 'मोंट ब्लांक' पर चढ़ने में लोगों को कब सफलता मिली ?
   (i)   सन 1796 में ☐   (ii) सन 1896 में ☐
   (iii) सन 1786 में ☑   (iv) सन 1976 में ☐

2. पर्वतारोहण के लिए सबसे आवश्यक बात है—
   (i)   प्रेम की भावना ☐   (ii) अनुशासन की भावना ☑
   (iii) ममता की भावना ☐   (iv) दया की भावना ☐

3. पर्वतारोहण के लिए ज़रूरी सामान नहीं है—
   (i)   ऑक्सीजन का सिलेंडर ☐   (ii) रस्सी ☐
   (iii) बर्फ़ का चश्मा ☐   (iv) खेलने का सामान ☑

4. हिमालय की सबसे ऊँची चोटी है—
   (i)   एवरेस्ट ☑   (ii) शिकार ☐   (iii) नीलकंठ ☐   (iv) अल्पाइन ☐

◆ लघु उत्तरीय प्रश्न— (Short answer-type questions)

1. पर्वतारोहण के लिए नियम क्यों बनाए गए ?
   पर्वतारोहण के लिए नियम इसलिए बनाए गए ताकि लोग पर्वत पर चढ़ते समय वहाँ आने वाली समस्याओं को हल कर सकें, मुसीबत से बच सकें और बचाव के उपाय याद रखें।

2. पर्वतारोहण का सबसे पहला और अनिवार्य नियम क्या है ?
   पर्वतारोहण का सबसे पहला और अनिवार्य नियम यह है कि ऐसा कोई कदम मत उठाओ, जिसके बारे में तुम सोचते हो कि तुम नहीं कर सकते।

3. बर्फ़ीले पहाड़ों पर चढ़ने के लिए आवश्यक चीज़ों में सबसे उपयोगी वस्तु क्या है और क्यों ?
   बर्फ़ीले पहाड़ों पर चढ़ने के लिए आवश्यक चीज़ों में सबसे उपयोगी वस्तु बर्फ़ काटने की कुल्हाड़ी है क्योंकि इसके द्वारा ही पर्वतारोही अपने को फिसलने से बचाता है तथा सीधी चढ़ाई होने पर इसका सहारा लेकर चढ़ता है।

4. हिमालय की सबसे ऊँची चोटी 'एवरेस्ट' पर पहुँचने में सबसे पहले किसने और कब विजय प्राप्त की ?
   हिमालय की सबसे ऊँची चोटी 'एवरेस्ट' पर पहुँचने में सबसे पहले सन 1953 में तेनजिंग नॉर्गे तथा सर एडमंड हिलेरी ने विजय प्राप्त की।

5. पर्वतारोहण के 'एडवांस' वर्ग में प्रशिक्षण के लिए किन पर्वतारोहियों को भेजा जाता है ?
   पर्वतारोहण के 'एडवांस' वर्ग में प्रशिक्षण के लिए उन्हीं पर्वतारोहियों को भेजा जाता है, जिन्होंने बेसिक वर्ग में विशेष योग्यता प्राप्त की हो।

दीर्घ उत्तरीय प्रश्न

प्रश्न1. पर्वतारोहण के लिए किन-किन वस्तुओं की आवश्यकता होती है और वे किस काम आती हैं ? लिखिए।

उत्तर। पर्वतारोहण के लिए विशेष प्रकार के जूते, बर्फ की धूप का चश्मा, ऑक्सीजन का सिलेंडर, तंबू, नाइलॉन की रस्सी तथा बर्फीले पहाड़ों के लिए बर्फ काटने की कुल्हाड़ी और वायरलैस सैट आदि वस्तुओं की आवश्यकता होती है। विशेष प्रकार के जूतों से फिसलन नहीं होती। रस्सी के द्वारा कामचलाऊ सीढ़ी और पुल बनाए जा सकते हैं। बर्फ की कुल्हाड़ी बर्फीले पहाड़ों पर चढ़ने में सहायता करती है। वायरलैस सेट से पर्वतारोही अपने अभियान का पूरा ब्यौरा अपने मुख्य केंद्र को भेजते रहते हैं।

प्रश्न2. पर्वतारोहण का प्रशिक्षण कितने चरणों में दिया जाता है? प्रत्येक का संक्षिप्त विवरण दीजिए।

उत्तर. पर्वतारोहण का प्रशिक्षण तीन चरणों में दिया जाता है। बेसिक, एडवांस तथा एडवेंचर कोर्स।

1. बेसिक वर्ग के प्रशिक्षण में पर्वतारोहण से संबंधित पुस्तकों का अध्ययन, छोटे-छोटे पर्वतारोहण, अपने साथियों से संबंधित व्यवहार, पर्वतों और पर्वतारोहण से संबंधित विज्ञान के कुछ विषय, नए और भिन्न वातावरण में रहना आदि सिखाया जाता है।

2. 'एडवांस' वर्ग के प्रशिक्षण के लिए उन्हीं पर्वतारोहियों को भेजा जाता है, जिन्होंने बेसिक वर्ग में विशेष योग्यता प्राप्त की हो। इस वर्ग में, दल के सदस्य के रूप में तथा दल के नेतृत्व के रूप में प्रशिक्षण दिया जाता है।

3. 'एडवेंचर' कोर्स में पर्वतारोहण के इच्छुक लोगों को बड़े अभियानों के लिए मानसिक और शारीरिक रूप से तैयार किया जाता है।

◆ 'चढ़ना' एक क्रिया शब्द है और 'चढ़ाई' संज्ञा शब्द है। इसी प्रकार आप निम्नलिखित क्रिया शब्दों को संज्ञा शब्दों में बदलिए– ('चढ़ना' is a verb and 'चढ़ाई' is a noun. In this way change the following verbs into nouns.)

बचना	बचाव	रोना	रुदन, रुलाई
सुनना	सुनवाई	काटना	कटाव, कटाई
लड़ना	लड़ाई		

◆ 'हिमालय' शब्द 'हिम + आलय' से मिलकर बना है। 'आलय' प्रत्यय जोड़कर पाँच अन्य शब्द बनाइए। (The word Himalaya is made up of two words– 'हिम and आलय'. Make five other words by adding the suffix 'आलय'.

वाचन + आलय – वाचनालय   भोजन + आलय – भोजनालय   शिव + आलय – शिवालय

पुस्तक + आलय – पुस्तकालय   विद्या + आलय – विद्यालय

◆ निम्नलिखित शब्दों में से उपसर्ग व मूलशब्द अलग-अलग करके लिखिए– (Separate the root word and prefix from the following words.)

	उपसर्ग	मूलशब्द
अनुशासन	अनु	शासन
प्रशिक्षण	प्र	शिक्षण
दुर्घटना	दुर्	घटना
विदेश	वि	देश
असंभव	अ	संभव

सही उत्तर वाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. 'पर्वतारोही' का संधि-विच्छेद है–

(i) पर्वता + रोही ☐ (ii) पर्वत + आरोही ☑ (iii) पर्वत + रोही ☐ (iv) पर्व + तारोही ☐

2. 'अनिवार्य' का विलोम शब्द है–

(i) आवश्यक ☐ (ii) अलग ☐ (iii) ऐच्छिक ☑ (iv) स्वतंत्र ☐

3. 'प्रगति' का पर्यायवाची नहीं है–

(i) विकास ☐ (ii) उन्नति ☐ (iii) ख्याति ☑ (iv) बढ़ोत्तरी ☐

रचनात्मक गतिविधियाँ
Creative Activities

◆ पर्वतारोहण के अतिरिक्त अन्य रोमांचकारी खेल कौन-कौन से हैं? इनमें से आप किसमें रुचि रखते हैं? (Name other thrilling games except mountaineering. In which play do you have interest?)

◆ तेनजिंग नॉर्गे व एडमंड हिलेरी ने हिमालय की सबसे ऊँची चोटी 'एवरेस्ट' पर पहुँचकर एक कीर्तिमान स्थापित किया है। ऐसे ही पाँच अन्य व्यक्तियों का परिचय दीजिए जिन्होंने विभिन्न क्षेत्रों में कीर्तिमान स्थापित किए हैं।

(Tezing Norgay and Edmund Hillary have beaten the record by reaching the highest peak of the Himalayas. Name five such persons who have beaten the record in different fields.)

लीक वही नहीं
(Search of new ways)

अभ्यास
Exercise

पाठ को जानें (Know the Lesson)

◆ **मौखिक विश्लेषण कीजिए–** (Oral analysis)

1. कैसी लीक पर चलना चाकों के हक में अच्छा नहीं होता ?

वर्षों से गाड़ियों के एक ही लीक पर निरंतर चलते-चलते जब वह लीक बहुत गहरी हो जाती है, तब उसके पीछे चलना चाकों के हक में अच्छा नहीं होता।

2. ऊँच-नीच की भावना के निवारण का क्या अर्थ है ? – *सारे ही संकुचित भेद-भावों का निर्मूलन।*

3. दुनिया के सभी धर्म-संप्रदायों ने आरंभकाल में किसका जयघोष किया था ?

अपने-अपने आरंभकाल में अभेद और समता का ही जयघोष किया था।

बहुविकल्पीय प्रश्न (MCQs)

सही उत्तरवाले विकल्प पर ✓ लगाइए– (Tick (✓) the correct answer.)

1. गाड़ी का पहिया रास्ते पर चलकर बना लेता है–

   (i)   गड्ढा ☐   (ii)   लीक ☑

   (iii) पुल ☐   (iv)   सीढ़ियाँ ☐

2. हमारी गति जड़ बनकर कब रुक सकती है ?

   (i)   नया चिंतन न करने पर ☑   (ii)   क्रांति करने पर ☐

   (iii) पुरानी बात न मानने पर ☐   (iv)   क्रोध करने पर ☐

3. नई लीक बनाते समय क्या ध्यान रखना होगा ?

   (i)   लीक चौड़ी न हो जाए ☐   (ii)   लीक छोटी न हो जाए ☐

   (iii) लीक रूढ़ि का रूप धारण न कर ले ☑   (iv)   लीक बड़ी न हो जाए ☐

◆ **लघु उत्तरीय प्रश्न–** (Short answer-type questions)

1. वर्षों से गाड़ियों के निरंतर चलते-चलते जब लीक बहुत ज़्यादा गहरी हो जाती है, तब क्या होता है ?

   वर्षों से गाड़ियों के निरंतर चलते-चलते जब लीक बहुत गहरी हो जाती है, तब उसके पीछे चलना चाकों के हित में नहीं होता ।

2. 'गाड़ी गलत रास्ते की गहरी लीक पर जा रही है।' – यह किसने सुझाया ?

   'गाड़ी गलत रास्ते की गहरी लीक पर जा रही है।'–यह लीक छोड़कर पैदल चलने वाले साधु-संतों ने सुझाया ।

3. 'आत्म-दर्शन' का लक्ष्य संसार के सामने रखनेवाले धर्मों में कौन-सी क्रियाएँ प्रवेश कर गईं ?

   'आत्म-दर्शन' का लक्ष्य संसार के सामने रखनेवाले धर्मों में पथ-भ्रष्ट कर्मकांड की बाहरी क्रियाएँ प्रवेश कर गईं ।

4. कर्मकांड मिथ्याचार का रूप कब ले लेता है ?

   विवेकपूर्ण चिंतन के न होने पर कर्मकांड मिथ्याचार का रूप ले लेता है ।

◆ **दीर्घ उत्तरीय प्रश्न–**

1. लेखक ने आँख मूँदकर एक ही लीक पर गाड़ी चलाने को क्यों मना किया है ?

लेखक के अनुसार जिस प्रकार पुरानी लीक पर गाड़ी के पहिये धँसने लगते हैं और गाड़ी रुक जाती है, उसी प्रकार यदि हम नया चिंतन न करके, बदले हुए काल और परिस्थितियों का विचार न करके आँख मूँदकर एक ही लीक पर अपनी जीवन-यात्रा की गाड़ी चलाते रहेंगे तो प्रगति करने के बजाय किसी दिन हमारी गति जड़ बनकर रुक भी सकती है। इसलिए लेखक ने आँख मूँदकर एक ही लीक पर गाड़ी च्लाने को मना किया है।

2. साधु-संतों की चेतावनी पर लीक पर चलने वालों ने क्या प्रतिक्रिया की ? इसका क्या परिणाम हुआ ?

साधु-संतों की चेतावनी पर लीक पर चलने वालों ने अधिक ध्यान नहीं दिया। गाड़ी पर बैठे-बैठे उनको हाथ जोड़कर केवल प्रणाम कर लिया। सीख-भरी उनकी 'साखियों' और 'सबदों' को चलते-चलते सुन लिया, पर गाड़ी को उस लीक पर से उतारकर दूसरा रास्ता उन्होंने नहीं पकड़ा। इसका परिणाम यह हुआ कि पुरानी लीक पर गाड़ी के चाक धँसने लगे और गाड़ी वहीं रुक गई। रास्ता भी इतना संकरा था कि उस पर दूसरी लीक बन नहीं सकती थी। चाकों ने आगे बढ़ने से, सर्वनाश के गड्ढे में गिरने से, साफ इनकार कर दिया।

अब भाषा की बात (About the Language)

◆ 'आत्म-दर्शन' शब्द 'आत्म' और 'दर्शन' से मिलकर बना है। 'आत्म' से बनने वाले कुछ अन्य शब्द लिखिए। (The word 'आत्म-दर्शन' is made up of two words 'आत्म' and 'दर्शन'. Write some other words made up of the word 'आत्म'.)

आत्मविश्लेषण, आत्म-निरीक्षण, आत्मरक्षक, आत्मरक्षा, आत्मदाह आदि।

◆ दिए गए समस्त-पदों का सामासिक-विग्रह कीजिए और उनमें प्रयुक्त समास का नाम भी बताइए—
(Disjoin the given compound words and write the name of compound.

जीवन-यात्रा	जीवन की यात्रा	तत्पुरुष समास
पथ-भ्रष्ट	पथ से भ्रष्ट	तत्पुरुष समास
आत्म-दर्शन	आत्म का दर्शन	तत्पुरुष समास
काल-प्रवाह	काल का प्रवाह	तत्पुरुष समास
नया-पुराना	नया और पुराना	द्वंद्व समास
यथासमय	समय के अनुसार	अव्ययीभाव समास

◆ निम्नलिखित मुहावरों का अर्थ स्पष्ट करते हुए उन्हें स्वरचित वाक्यों में प्रयोग कीजिए—
(Use the following idioms in your own sentences making the meaning clear.)

लीक पर चलना (प्राचीन परंपराओं का पालन करते रहना) — जब तक लीक पर चलना नहीं छोड़ोगे तब तक आगे नहीं बढ़ोगे।

लँगड़ा समर्थन करना (समर्थन में बल न होना) — बेटे द्वारा विदेश में बसने के फैसले का पिताजी ने लँगड़ा समर्थन किया।

काया पलट होना (अत्याधिक बदलाव आ जाना) — राजू की नौकरी लगते ही उसके घर की काया पलट गई।

आँख मूँदकर चलना (बिना सोचे-समझे कार्य करना) — तुम्हारे साथ आँख मूँदकर चलने से अच्छा है कि मैं अपना फैसला स्वयं करूँ।

'निर्मूलन' शब्द 'निर्' उपसर्ग से बना है। इसी प्रकार 'निस्' से 'निस्संकोच' शब्द बना है। (The word 'निर्मूलन' is made by the prefix 'निर्' and 'निस्संकोच' is made by 'निस्') निम्नलिखित उपसर्गों से दो-दो नए शब्द बनाइए– (Do make two words from each of the following prefixes.)

निर्   निर्बल   निर्दोष

निस्   निस्संकोच   निस्संदेह

दुर्   दुर्गम   दुर्दशा

दुस्   दुस्साहस   दुष्कर्म

6.

रचना-प्रसून

मानक हिंदी व्याकरण तथा रचना

पाठ - 9   कारक
पाठ - 5   वर्तनी की अशुद्धियाँ
पाठ - 16   विराम चिह्न
पाठ - 15   वाक्य विचार
पाठ - 7   शब्द भंडार : (पर्यायवाची शब्द)

निबंध - विज्ञान के चमत्कार
पत्र : 1. आर्थिक सहायता हेतु प्रधानाचार्य महोदय को
        आवेदन पत्र।
     2. वार्षिक उत्सव में शामिल होने के लिए माँ को पत्र।

9 - कारक

अभ्यास

निम्नलिखित प्रश्नों के उत्तर दीजिए (मौखिक अभिव्यक्ति)–

1.

(क) कारक से आप क्या समझते हैं ? समझाइए। *Pg. No -73*

(ख) कारक के कितने भेद होते हैं ? **आठ**

(ग) अधिकरण कारक का परसर्ग बताइए। **में , पर**

या परसर्ग कहलाते हैं।

मौखिक उत्तर 1. (क)

संज्ञा या सर्वनाम के जिस रूप से उसका संबंध क्रिया अथवा वाक्य के अन्य शब्दों के साथ प्रकट होता है, उसे 'कारक' कहते हैं।

(iii) कारक

❀ अभ्यास ❀

2. **निम्नलिखित प्रश्नों के उत्तर लिखिए—**

(क) कारक के भेदों के नाम व उनके परसर्ग लिखिए—

	कारक	परसर्ग
1.	कर्ता	ने
2.	कर्म	को
3.	करण	से , के द्वारा , के साथ
4.	संप्रदान	के लिए
5.	अपादान	से (अलग होने का भाव)
6.	संबंध	का , की , के , रा , री , रे
7.	अधिकरण	में , पर
8.	संबोधन	हे , अरे

(ख) बच्चे खेलते हैं।

(ग) कर्ता जिस साधन से क्रिया को करता है , उसे करण कारक कहते हैं जैसे— माँ ने चाकू **से** फल काटा। जिसके लिए क्रिया की जाती है , उसे व्यक्त करने वाले शब्द को संप्रदान कारक कहते हैं ; जैसे— माँ रमा **के लिए** गुड़िया लाई।

(घ) किसी को पुकारने या बुलाने के लिए जिन शब्दों का प्रयोग होता है ; वे संबोधन कारक कहलाते हैं ; जैसे— **अरे** रमेश ! कहाँ जा रहे हो ?

3. **उपयुक्त 'परसर्ग' द्वारा रिक्त स्थानों की पूर्ति कीजिए—**

(क) को   (ख) पर   (ग) ने   (घ) हे   (ङ) के लिए

4. निम्नलिखित वाक्यों के रंगीन पदों में प्रयुक्त कारक का नाम लिखिए—

(क) अपादान कारक   (ख) संप्रदान कारक

(ग) कर्ता कारक   (घ) संबंध कारक

(ङ) अधिकरण कारक

5. निम्नलिखित कारक-चिह्नों का प्रयोग करके वाक्य लिखिए—

(क) पिता जी श्याम के लिए एक गेंद लाए।

(ख) माता जी आँगन में बैठी हैं।

(ग) श्रेया बस द्वारा विद्यालय जाती है।

(घ) राम अध्यापिका को कहानी सुनाता है।

(ङ) गुरु जी ने सभी शिष्यों को बगीचे में बुलाया।

(च) पेड़ पर बहुत-से बंदर बैठे हैं।

(छ) हे भगवान! मुझे इस मुसीबत से बचाओ।

बहुविकल्पीय प्रश्न

सही उत्तर वाले विकल्प पर ✓ लगाइए—

1. (ग) आठ   2. (घ) के लिए

3. (ख) संबंध   4. (क) अधिकरण

5

वर्तनी की अशुद्धियाँ
(Spelling Mistakes)

अभ्यास

निम्नलिखित प्रश्नों के उत्तर दीजिए (मौखिक अभिव्यक्ति)–

(क) वर्तनी किसे कहते हैं ? *किसी भी शब्द को लिखने की व्यवस्था को वर्तनी कहते हैं।*

(ख) वर्तनी में अशुद्धियाँ होने का मुख्य कारण क्या है ? – उच्चारण दोष

5 वर्तनी की अशुद्धियाँ

❀ अभ्यास ❀

2. निम्नलिखित शब्दों की शुद्ध वर्तनी लिखिए–

रितु	–	ऋतु	साधू	– साधु
दांत	–	दाँत	पूण्य	– पुण्य
पितांबर	–	पीतांबर	झूटा	– झूठा
नमश्कार	–	नमस्कार	परिवारिक	– पारिवारिक
वापिस	–	वापस	ऋषी	– ऋषि
श्रृंखला	–	शृंखला	धोका	– धोखा

3. निम्नलिखित वाक्यों में आए अशुद्ध शब्दों की वर्तनी को शुद्ध करके वाक्यों को पुनः लिखिए–

(क) श्रीमती सविता मुझे हिंदी पढ़ाती हैं।

(ख) सोमवार को मेरी परीक्षा है।

(ग) मेरे दाँत में दर्द हो रहा है।

(घ) साधु को भिक्षा दो।

(ङ) गुरु को प्रणाम करो।

(च) आज का दिन अत्यधिक व्यस्त था।

(छ) दिवाकर बीमारी के कारण परीक्षा नहीं दे पाया।

बहुविकल्पीय प्रश्न

सही वर्तनी वाले विकल्प पर ✓ लगाइए–

1. (ग) अधीन
2. (घ) अतिथि
3. (क) दैनिक
4. (ग) झूठा
5. (घ) पौधा
6. (ग) बहन

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विराम-चिह्न
(Punctuation-Marks)

अभ्यास

1. निम्नलिखित प्रश्नों के उत्तर दीजिए (मौखिक अभिव्यक्ति)—

(क) विराम-चिह्नों का क्या महत्व है ? *कि इसके प्रयोग से भाषा में स्पष्टता आ जाती है।* यह

(ख) इकहरे उद्धरण चिह्न व दोहरे उद्धरण चिह्न में क्या अंतर है ? *Pg. No – 126*

(ग) इच्छार्थक वाक्यों के अंत में कौन-सा विराम-चिह्न लगता है ? *पूर्ण विराम*

6. उद्धरण चिह्न (`` .... '') : जब किसी के द्वारा कही गई बात को ज्यों-का-त्यों लिखा जाता है, तब वहाँ पर इन चिह्नों का प्रयोग किया जाता है। उद्धरण चिह्न दो प्रकार के होते हैं—

दोहरे उद्धरण चिह्न (`` ... '') और इकहरे उद्धरण चिह्न (` .... ')।

जब किसी के कथन को ज्यों-का-त्यों उद्धृत किया जाता है तब दोहरे उद्धरण चिह्न (`` .... '') का प्रयोग किया जाता है।

जैसे—(i) सुभाषचंद्र बोस ने कहा, `` तुम मुझे खून दो, मैं तुम्हें आज़ादी दूँगा।''

लेखक का नाम, पुस्तक का नाम, उपनाम आदि उद्धृत करने में इकहरे उद्धरण चिह्न का प्रयोग किया जाता है।

जैसे—(i) गोपाल दास `नीरज'

(ii) प्रेमचंद की सुप्रसिद्ध कहानी `पंच परमेश्वर' है।

2. निम्नलिखित विराम-चिह्नों के सामने उनके नाम और प्रयोग लिखिए–

(क) (।) पूर्ण विराम – इसका प्रयोग वाक्य के अंत में किया जाता है।

(ख) (!) विस्मयसूचक – इसका प्रयोग मनोभावों को प्रकट करने के लिए किया जाता है।

(ग) (,) अल्पविराम – इसका प्रयोग थोड़ा रुकने के लिए किया जाता है।

(घ) (-) योजक – इसका प्रयोग दो शब्दों को जोड़ने के लिए किया जाता है।

(ङ) ('....') इकहरा उद्धरण चिह्न – इसका प्रयोग लेखक का नाम, पुस्तक का नाम, उपनाम आदि उद्धृत करने में किया जाता है।

(च) (?) प्रश्नवाचक – प्रत्यक्ष प्रश्नों वाले वाक्यों के अंत में इसका प्रयोग किया जाता है।

3. निम्नलिखित वाक्यों में सही विराम-चिह्नों का प्रयोग करते हुए वाक्य पुनः लिखिए–

(क) ठहरो ! उधर मत जाओ।

(ख) अध्यापक ने कहा , ''सभी छात्र कक्षा में बैठें।''

(ग) अरे ! क्या कर रहे हो ?

(घ) रामधारी सिंह 'दिनकर' एक प्रतिष्ठित कवि थे।

(ङ) लतिका , गीतिका और मंजूषा झूला झूल रही हैं।

(च) तुम कहाँ रहते हो ?

4. दिए गए विराम-चिह्नों का प्रयोग करते हुए वाक्य बनाइए–

(?) प्रश्नवाचक चिह्न - अभी कौन आया था ?

(,) अल्पविराम - नहीं , सचिन आज नहीं आया।

(!) विस्मयसूचक चिह्न - वाह ! क्या शानदार बँगला है।

(-) योजक चिह्न - धीरे-धीरे चलो।

(।) पूर्ण विराम - आज शनिवार है।

(''.....'') उद्धरण चिह्न - माँ ने कहा था– ''सदा सच बोलना।''

(–) निर्देशक चिह्न - संज्ञा के तीन भेद हैं– 1. जातिवाचक

2. व्यक्तिवाचक 3. भाववाचक

बहुविकल्पीय प्रश्न

सही उत्तर वाले विकल्प पर ✓ लगाइए–

1. (घ) विराम-चिह्न   2. (ग) पूर्णविराम   3. (ख) योजक चिह्न

15

वाक्य-विचार
(Syntax)

1. निम्नलिखित प्रश्नों के उत्तर दीजिए (मौखिक अभिव्यक्ति)—

(क) पद किसे कहते हैं ? *शब्द जब वाक्यों में प्रयुक्त (प्रयोग) होते हैं, तब उन्हें 'पद' कहते हैं।*

(ख) सरल और संयुक्त वाक्य में क्या अंतर है, समझाइए। *Pg. NO – 120*

(ग) मिश्र वाक्य का एक उदाहरण दीजिए। *वह किताब मेरी है जो तुम पढ़ रहे हो।*

वाक्य के भेद

वाक्यों के भेद दो आधारों पर किए जाते हैं–

1. रचना के आधार पर
2. अर्थ के आधार पर

1. **रचना के आधार पर–** रचना के आधार पर वाक्य तीन प्रकार के होते हैं–

   (i) साधारण वाक्य (Simple Sentence)

   (ii) संयुक्त वाक्य (Compound Sentence)

   (iii) मिश्र वाक्य (Complex Sentence)

   (i) **साधारण वाक्य–** जिन वाक्यों में केवल एक क्रियापद होता है , वे सरल वाक्य कहलाते हैं।

   जैसे– 1. रीना पुस्तक पढ़ती है।

   2. गौरव और सौरभ खेल रहे हैं।

   3. सचिन , राजन और वैभव कक्षा में बैठे हैं।

   उपर्युक्त वाक्यों में रंगीन शब्द क्रियापद हैं। एक ही क्रियापद होने के कारण ये सरल वाक्य हैं।

   (ii) **संयुक्त वाक्य–** संयुक्त वाक्य में एक से अधिक सरल वाक्यों को योजकों द्वारा जोड़ा जाता है।

   जैसे– 1. शालिनी किताब पढ़ रही है और सीमा खेल रही है।

   2. आप मेरे साथ चलेंगे या स्वयं आ जाएँगे ?

15 | वाक्य-विचार

෴ अभ्यास ෴

2. निम्नलिखित प्रश्नों के उत्तर लिखिए–

(क) पदों का सार्थक और व्यवस्थित समूह वाक्य कहलाता है।

(ख) वाक्य के दो अंग होते हैं–   1. उद्देश्य   2. विधेय

(ग) 'रीतिका किताब पढ़ रही है।' उक्त वाक्य में 'रीतिका' उद्देश्य है तथा 'किताब पढ़ रही है' विधेय है।

(घ) रचना के आधार पर वाक्य तीन प्रकार के होते हैं–

    1. सरल वाक्य   2. संयुक्त वाक्य   3. मिश्र वाक्य

(ङ) जिन वाक्यों में किसी बात के न होने का बोध होता है, निषेधार्थक वाक्य कहते हैं ; जैसे– आज परीक्षा-परिणाम घोषित नहीं हुआ।

(च) आज्ञार्थक वाक्य के दो उदाहरण–

    1. एक गिलास पानी लाओ।   2. पंखा बंद कर दो।

3. निम्नलिखित वाक्यों में से उद्देश्य और विधेय अलग करके लिखिए–

उद्देश्य	विधेय
(क) कबीर	एक सफल डॉक्टर है।
(ख) लकड़हारा	लकड़ी काटता है।
(ग) चिड़िया	चहचहा रही है।
(घ) सूरज	चमक रहा है।
(ङ) मेरा बड़ा भाई	कहानियाँ लिखता है।

4. रचना के आधार पर निम्नलिखित वाक्यों के भेद बताइए–

(क) सरल वाक्य   (ख) सरल वाक्य   (ग) मिश्र वाक्य

(घ) संयुक्त वाक्य   (ङ) संयुक्त वाक्य

5. निम्नलिखित वाक्यों के अर्थ के आधार पर भेद बताइए–

(क) इच्छार्थक   (ख) विधानार्थक   (ग) आज्ञार्थक

(घ) संदेहार्थक   (ङ) विस्मयार्थक   (च) निषेधार्थक

(छ) संकेतार्थक   (ज) प्रश्नार्थक

बहुविकल्पीय प्रश्न

नीचे दिए गए वाक्यों के भेद के लिए सही विकल्प पर ✓ लगाइए–

1. (ग) प्रश्नार्थक   2. (ख) संदेहार्थक   3. (क) इच्छार्थक

आधार शब्द ही होते हैं। भाषा में शब्दों का विशेष महत्व होता है। अच्छे भाषण या लेखन में शब्द- भंडार का विशेष

होता है। इनके प्रयोग से हम अपने संभाषण और लेखन में प्रभाविकता ला सकते हैं। हिंदी भाषा में प्रयुक्त होने

न्न प्रकार के शब्दों के बारे में जानिए।

पर्यायवाची शब्द (Synonyms)

अभ्यास

1. निम्नलिखित प्रश्नों के उत्तर दीजिए (मौखिक अभिव्यक्ति)—
   Pg. No - 44

   (क) समानार्थी और विलोम शब्द में क्या अंतर है ? Pg. No - 46

   (ख) अनेकार्थी शब्द किसे कहते हैं ? Pg. No - 48

अधिकांशत: प्रत्येक भाषा में एक ही अर्थ के लिए कई शब्दों का प्रयोग होता है। ऐसे शब्दों का अर्थ लगभग स

जैसे—पर्वत के लिए—पहाड़ , गिरि , अचल आदि शब्दों का प्रयोग किया जा सकता है। इन्हें पर्यायवाची शब्द

मौखिक उत्तर। (क) (लगभग समान अर्थ देने वाले शब्द पर्यायवाची कहलाते हैं।)

पर्यायवाची शब्दों का अर्थ तो समान होता है किंतु प्रयोग के स्तर पर कुछ अंतर होता है। जैसे—'पर्वत' और

'चढ़ना' क्रिया का प्रयोग होता है किंतु अचल पर नहीं होता।

पर्यायवाची शब्द—

7 शब्द-भंडार

ॐ अभ्यास ॐ

2. निम्नलिखित शब्दों के तीन-तीन पर्यायवाची लिखिए–

आकाश	–	आसमान	गगन	नभ
गणेश	–	गजानन	गणपति	लंबोदर
गाय	–	गौ	धेनु	सुरभि
माता	–	माँ	जननी	अंबा
सरस्वती	–	भारती	शारदा	वीणावादिनी

बहुविकल्पीय प्रश्न

1. (क) आशा

संकेत बिंदु: भूमिका, विज्ञान के अनेक उपहार तथा लाभ, विज्ञान से हानियाँ, निष्कर्ष।

भूमिका: आज के युग को 'विज्ञान का युग' कहा जाता है। विज्ञान ने आज मानव को अनेक प्रकार के उपहारों से उपकृत किया है। विज्ञान के अनेक आविष्कारों ने आज दुनिया की सूरत ही बदल दी है। कल तक हम जिस बात को असंभव समझते थे, वही आज संभव हो गई है। विज्ञान के छोटे-बड़े अनेक आविष्कारों ने मानव जीवन को हर प्रकार की सुख-सुविधाएँ दी हैं।

विज्ञान के उपहार तथा उनके लाभ: विज्ञान ने मानव को अनेक प्रकार के उपहार दिए हैं। यातायात के क्षेत्र में आज ऐसे साधन उपलब्ध हैं जिससे दुनिया के किसी भी कोने में कुछ ही घंटों में पहुँचा जा सकता है। आज तो मनुष्य के चरण दूसरे ग्रहों पर भी पड़ गए हैं।

चिकित्सा के क्षेत्र में विज्ञान के आविष्कार मनुष्य के लिए वरदान सिद्ध हुए हैं; जैसे- आज मानव-अंगों का प्रत्यारोपण किया जा रहा है, प्लास्टिक सर्जरी से कृत्रिम अंगों का निर्माण संभव हो गया है, अल्ट्रासाउंड द्वारा रोगों का पता लगाया जा सकता है, टेस्ट ट्यूब बेबी का जन्म संभव है आदि। जो रोग असाध्य समझे जाते थे, आज उनका उपचार संभव है।

मनुष्य के जीवन को सुखी तथा आरामदेह बनाने के लिए विज्ञान ने उसे अनेक प्रकार के उपकरण दिए हैं जो विद्युत द्वारा चलते हैं। विद्युत ने आज घर-घर में प्रकाश किया है, बड़े-बड़े उद्योग धंधे विद्युत से ही चलते हैं। दूरभाष, कंप्यूटर, मोबाइल, इंटरनेट जैसे अनेक आविष्कारों ने क्रांति पैदा कर दी है। मनोरंजन के क्षेत्र में टेलिविजन, चलचित्र आदि ने हलचल मचा दी है।

कृषि के क्षेत्र में भी विज्ञान के चमत्कारों ने अपना प्रभाव डाला है। अब बंजर भूमि को उपजाऊ बनाया जा सकता है। जहाँ पहले कुछ भी पैदा नहीं होता था, वहाँ अब फसलें उगाई जा रही हैं। नई-नई तकनीक का प्रयोग करके कम समय में अधिक फसलें प्राप्त की जा सकती हैं।

विज्ञान के आविष्कारों के कारण आज समुद्र की गहराइयों, पृथ्वी के गर्भ तथा अंतरिक्ष के नित नए रहस्य भी हमें ज्ञात हो रहे हैं।

विज्ञान से हानियाँ: विज्ञान के आविष्कारों ने जहाँ मानव को इतने उपहार प्रदान किए, वहीं विज्ञान ने ऐसे अनेक भीषण अस्त्र-शस्त्रों का निर्माण कर लिया है जिससे समूचा विश्व कुछ ही समय में नष्ट किया जा सकता है। द्वितीय विश्व-युद्ध के समय जापान के दो नगरों पर परमाणु बम से हुआ विनाश इसका साक्षी है। यदि भविष्य में कभी तीसरा विश्व-युद्ध हुआ, तो संभवतः समूची मानव-सभ्यता का विनाश हो जाएगा।

निष्कर्ष: विज्ञान के लाभ तथा हानियों पर विचार करने से यह स्पष्ट हो जाता है कि विज्ञान अपने आप कोई हानि नहीं पहुँचाता। विज्ञान के आविष्कारों का दुरुपयोग करने वाले ही इस हानि के ज़िम्मेदार हैं। यदि विज्ञान के आविष्कारों को मानव-कल्याण के लिए प्रयोग किया जाए, तो ये पृथ्वी को स्वर्ग बना सकते हैं।

3. आर्थिक सहायता हेतु प्रधानाचार्य महोदय को आवेदन पत्र।

श्रीमान प्रधानाचार्य जी

~~राजकीय उच्च माध्यमिक विद्यालय~~ सेंट जोसफ़ कॉन्वेंट स्कूल

~~जयपुर (राजस्थान)~~ मोगा

विषय : आर्थिक सहायता प्राप्ति हेतु आवेदन।

महोदय

(निजी, प्राइवेट)

विनम्र निवेदन यह है कि मैं एक मध्यम वर्गीय परिवार की बालिका हूँ। मेरे पिता एक गैरसरकारी संस्था में कार्यरत *(धन संबंधी)* थे। लंबी बीमारी के कारण मेरे पिता की नौकरी छूट गई है। वर्तमान में हमारा परिवार <u>आर्थिक</u> संकट से ग्रस्त है। मैं अपनी कक्षा में हमेशा प्रथम स्थान प्राप्त करती हूँ। मेरी हार्दिक इच्छा है कि पढ़ाई पूरी करूँ किंतु मेरे पिता मेरी पढ़ाई का खर्चा उठाने में असमर्थ हैं। अतः आपसे विनम्र निवेदन है कि आप विद्यालय की ओर से मुझे आर्थिक सहायता दिलवाने का कष्ट करें, जिससे मैं अपनी पढ़ाई <u>नियमित</u> रख सकूँ।

इस उपकार के लिए मैं आजीवन आपकी आभारी रहूँगी। *(संतुलित, सामान्य, लगातार जारी)*

धन्यवाद सहित *जीवन भर*

आपकी आज्ञाकारिणी शिष्या

गीता शर्मा

कक्षा– ~~6 ब~~ आठवीं

दिनांक–14/7/xx

2. आपके विद्यालय में होने वाले वार्षिक-उत्सव में आपको पुरस्कृत किया जाएगा। आप चाहते हैं कि आपकी माता जी भी इस समारोह में उपस्थित रहें। माता जी को बुलाने के लिए पत्र।

~~118, नेहरू छात्रावास~~
~~केंद्रीय विद्यालय-2~~ *परीक्षा भवन*
~~इलाहाबाद~~ *मोगा*

दिनांक— _____

आदरणीय माता जी

सादर चरणस्पर्श

मैं यहाँ पर सकुशल हूँ। आशा करता हूँ कि आप सब भी वहाँ पर ईश्वर की कृपा से कुशलतापूर्वक होंगे। आगे समाचार यह है कि मेरे विद्यालय का वार्षिकोत्सव 25 जून को होने जा रहा है। इस उत्सव में विभिन्न खेलों में विजयी तथा मेधावी विद्यार्थियों को पुरस्कृत किया जाएगा। *सातवीं* ~~आठवीं~~ कक्षा में सर्वाधिक अंक प्राप्त करने के कारण मुझे भी पुरस्कृत किया जाएगा। मेरी हार्दिक इच्छा है कि आप इस अवसर पर उपस्थित रहकर मुझे आशीर्वाद प्रदान करें। मुझे आशा ही नहीं पूर्ण विश्वास है कि आप मुझे निराश नहीं करेंगी तथा मेरे उत्साहवर्धन हेतु आप *जोश बढ़ाने के लिए* *ज़रूर* अवश्य आएँगी। घर में सभी को मेरी तरफ़ से नमस्कार कहिएगा।

आपका प्रिय पुत्र/*पुत्री*

~~सोनित बंसल~~
नाम – – – – –

CHAPTER - 5
Linear Equations and Inequations
(Exercise - A)

Linear equation : A equation in one variable.

① Solve (i) $3x - 5 = x + 3$

$$\Rightarrow 3x - x = 3 + 5$$

$$\Rightarrow 2x = 8$$

$$\Rightarrow x = \frac{8}{2} = 4$$

(ii) $7y - 1.5 = 8.5 - 3y$

$$\Rightarrow 7y + 3y = 8.5 + 1.5$$

$$\Rightarrow 10y = 10$$

$$\Rightarrow y = \frac{10}{10} = 1$$

② (i) $2(x - 3) = 14 - 3x$

$$\Rightarrow 2x - 6 = 14 - 3x$$

$$\Rightarrow 2x + 3x = 14 + 6$$

$$\Rightarrow 5x = 20$$

$$\Rightarrow x = \frac{20}{5} = 4$$

(ii) $5x + 7(x - 2) = 3 - 4(x + 6)$

$$\Rightarrow 5x + 7x - 14 = 3 - 4x - 24$$

$$\Rightarrow 12x - 14 = -21 - 4x$$

$$\Rightarrow 12x + 4x = -21 + 14$$

$$\Rightarrow 16x = -7$$

$$\Rightarrow x = \frac{-7}{16}$$

(3)　(i)　$$\frac{x-3}{2} + \frac{4}{1} = \frac{3x+7}{4}$$

$$\Rightarrow \frac{x-3+8}{2} = \frac{3x+7}{4}$$

$$\Rightarrow \frac{x+5}{2} = \frac{3x+7}{4}$$

Cross multiply

$$\Rightarrow 4(x+5) = 2(3x+7)$$

$$=) \quad 4x + 20 = 6x + 14$$

$$=) \quad 4x - 6x = 14 - 20$$

$$=) \quad -2x = -6$$

$$\Rightarrow x = \frac{-6}{-2} = 3$$

⑤ (i) $\dfrac{x+4}{2x+1} = \dfrac{x+2}{2x-1}$

Cross Multiply

$(x+4)(2x-1) = (x+2)(2x+1)$

$\Rightarrow x(2x-1) + 4(2x-1) = x(2x+1) + 2(2x+1)$

$\Rightarrow 2x^2 - x + 8x - 4 = 2x^2 + x + 4x + 2$

$\Rightarrow 2x^2 + 7x - 4 = 2x^2 + 5x + 2$

$\Rightarrow 2x^2 + 7x - 2x^2 - 5x = 2 + 4$

$\Rightarrow 2x = 6$

$\Rightarrow x = \dfrac{6}{2} = 3$

(1) Let number be x

ATQ

$$4x + 6 = 5x - 4$$

$$\Rightarrow \quad 4x - 5x = -4 - 6$$

$$\Rightarrow \quad \cancel{-}x = \cancel{-}10$$

$$\Rightarrow \quad x = 10$$

(2) **(i)** Let $x, x+1$ be the consecutive numbers

ATQ

$$(x+1)^2 - x^2 = 141$$

$$\Rightarrow \quad \cancel{x^2} + 1 + 2x - \cancel{x^2} = 141$$

$$\Rightarrow \quad 2x = 140$$

$$\Rightarrow \quad x = 70$$

$\therefore$ Numbers are 70 and 71

(3)

Let smaller no. = x

larger no. = $90 - x$

ATQ

$$\frac{1}{3}(90 - x) = 2x + 9$$

$\Rightarrow \quad 90 - x = 3(2x + 9)$

$\Rightarrow \quad 90 - x = 6x + 27$

$\Rightarrow \quad -x - 6x = 27 - 90$

$\Rightarrow \quad -7x = -63$

$\Rightarrow \quad x = 9$

$\therefore$ smaller no. = 9

larger no. = $90 - 9 = 81$

(4) (ii)   Let x be the number

ATQ

$25+x$, $7+x$, $1+x$ are the numbers.

$$(25+x)(1+x) = (7+x)^2$$

$$\Rightarrow 25(1+x) + x(1+x) = 7^2 + x^2 + 14x$$

$$\Rightarrow 25 + 25x + x + x^2 = 49 + x^2 + 14x$$

$$\Rightarrow 26x - 14x = 49 - 25$$

$$\Rightarrow 12x = 24$$

$$\Rightarrow x = 2$$

(6) (i)   Let unit digit $= x$ $\left.\begin{array}{c} \times 1 \\ \times 10 \end{array}\right\}$

$\therefore$ tens   ,, $= 4x$

Number $= x \times 1 + 4x \times 10$

$\qquad = x + 40x$

$\qquad = 41x$

ATQ

$x + 4x = 10$

$\Rightarrow \quad 5x = 10$

$\Rightarrow \quad x = \dfrac{10}{5} = 2$

$\therefore$ Number $= 41 \times 2 = 82$

(ii)   Let unit digit $= x$ $\left.\begin{array}{c} \times 1 \\ \times 10 \end{array}\right\}$

$\therefore$ tens   ,, $= 3x$

Number $= x \times 1 + 3x \times 10$

$\qquad = x + 30x$

$\qquad = 31x$

If digits are reversed,

unit digit $= 3x$

tens   ,, $= x$

$\therefore$ Number $= 3x \times 1 + x \times 10$

$\qquad = 3x + 10x$

$\qquad = 13x$

ATQ

$31x - 13x = 36$

$$\Rightarrow \quad 18x = 36$$

$$\Rightarrow \quad x = \frac{36}{18} = 2$$

$\therefore$ Number = 31×2

$$= 62$$

III   Let unit digit = x $\times 1$ }

$\therefore$ tens digit = $6 - x$ $\times 10$ }

$\therefore$ Number = $x \times 1 + (6-x) \times 10$

$$= x + 60 - 10x$$

$$= 60 - 9x$$

If digits are interchanged,

$\therefore$ unit digit = $6 - x$

tens ,, = x

Number = $(6-x) \times 1 + x \times 10$

$$= 6 - x + 10x$$

$$= 6 + 9x$$

ATQ

$$60 - 9x - 18 = 6 + 9x$$

$$\Rightarrow \quad 42 - 9x = 6 + 9x$$

$$\Rightarrow \quad -9x - 9x = 6 - 42$$

$$\Rightarrow \quad -18x = -36$$

$$\Rightarrow \quad x = 2$$

$$\therefore \quad \text{Number}$$
$$= 60 - 9 \times 2$$
$$= 60 - 18$$
$$= 42$$

(9) (i)   Let Shyam's age $= x$ years

ATQ

$$x + 5 = 3 \times (x - 9)$$
$$\Rightarrow) \quad x + 5 = 3x - 27$$
$$\Rightarrow) \quad x - 3x = -27 - 5$$
$$\Rightarrow) \quad -2x = -32$$
$$\Rightarrow) \quad x = \frac{-32}{-2} = 16$$

$$\therefore \quad \text{Shyam's age} = 16 \text{ years}$$

(ii)   Let lal's age $= x$ years

ATQ

$$x - 4 = 2(x - 9)$$
$$\Rightarrow) \quad x - 4 = 2x - 18$$
$$\Rightarrow) \quad x - 2x = -18 + 4$$
$$\Rightarrow) \quad -x = -14$$
$$\Rightarrow) \quad x = 14 \text{ years}$$

(10)   Let   son's age = x years

$\therefore$ man's ,, = $7x$

A T Q

In 5 years, (man) = 4 times of son

$$7x + 5 = 4 \times (x + 5)$$

$$\Rightarrow 7x + 5 = 4x + 20$$
$$\Rightarrow 7x - 4x = 20 - 5$$
$$\Rightarrow 3x = 15$$
$$\Rightarrow x = 5$$

$\therefore$ son's age = 5 yrs

man's ,, = $7 \times 5 = 35$ yrs.

(11) (i)　　Let after x years,

ATQ

Man's age = 3 × (age of son)

$\Rightarrow$ $(42 + x) = 3 \times (12 + x)$

$\Rightarrow$ $42 + x = 36 + 3x$

$\Rightarrow$ $x - 3x = 36 - 42$

$\Rightarrow$ $-2x = -6$

$\Rightarrow$ $x = 3$ years

(12) (i)　　Let five rupee coins = x

∴ one　　 ,,　　 = $3x$

and two　　 ,,　　 = $\dfrac{3x}{2}$

[one rupee coins are twice so
two rupee coins will be $\dfrac{3x}{2}$]

ATQ

$\dfrac{x}{1} + \dfrac{3x}{1} + \dfrac{3x}{2} = 66$

$$\Rightarrow \quad \frac{2x + 6x + 3x}{2} = \frac{66}{1}$$

$$\Rightarrow \quad \frac{11x}{2} = \frac{66}{1}$$

$$\Rightarrow \quad x = \overset{6}{\cancel{66}} \times \frac{2}{\cancel{11}}$$

$$= 12$$

∴ Value of five rupee coins:

$$5 \times 12$$

$$= ₹60$$

CH-5, Ex-B

(12) II   Let two-rupee coins = x

∴   five-rupee coins = x

∴   One rupee coins = 40 - 2x

ATQ

Value of coins = ₹120

⟹ $2 \times x + 5 \times x + 1 \times (40 - 2x) = 120$

⟹ $2x + 5x + 40 - 2x = 120$

⟹ $5x = 120 - 40$

⟹ $5x = 80$

⟹ $x = \dfrac{80}{5} = 16$

∴ five - rupee coins = 16

One ~~two~~ - rupee coins = 40 - 2×16

$= 40 - 32$

$= 8$

(13) Let total distance = x km

Case I	Case II
$\text{Speed}_1 = \dfrac{\text{Distance}}{\text{Time}}$	$\text{Speed}_2 = \dfrac{\text{Distance}}{\text{Time}}$
$= \dfrac{x}{2 \text{ hours } 45 \text{ min}}$	$= \dfrac{x}{3}$
$= \dfrac{x}{2\frac{\cancel{45}^{3}}{\cancel{60}_{4}}}$	
$= \dfrac{x}{11/4}$	
$= \dfrac{4x}{11}$	

ATQ

$\text{Speed}_1 - \text{Speed}_2 = 20$

$\Rightarrow \dfrac{4x}{11} - \dfrac{x}{3} = 20$

$\Rightarrow \dfrac{12x - 11x}{33} = 20$

$$\Rightarrow \quad \frac{x}{33} = 20$$

$$\Rightarrow \quad \therefore \quad x = 660 \ km$$

and Speed, $= \dfrac{4 \times \overset{60}{\cancel{660}}}{\cancel{11}_1} = 240 \ km/h$

(14) Try yourself

(15) Watch Video

(16) Let width $= x$

$\therefore$ length $= x + 5$

perimeter of rectangle $= 50 \ m$

$$\Rightarrow \quad 2 \left[Length + breadth \right] = 50$$

$$\Rightarrow \quad 2 \left[x + 5 + x \right] = 50$$

$$\Rightarrow \quad 2 \left[2x + 5 \right] = 50$$

$$\Rightarrow \quad 4x + 10 = 50$$

$$\Rightarrow \quad 4x = 50 - 10$$

$$\Rightarrow \quad x = \frac{40}{4} = 10$$

$\therefore$ width $= 10 \ m$

length $= 10 + 5 = 15 m$

(17)   Let other angle = x

$\therefore$ acute angle = $\dfrac{1}{5}x$

ATQ

$$\dfrac{x}{1} + \dfrac{1}{5}x + 90^\circ = 180^\circ \quad (ASP)$$

$$\Rightarrow \dfrac{x}{1} + \dfrac{1}{5}x = 180 - 90$$

$$\Rightarrow \dfrac{5x+x}{5} = 90$$

$$\Rightarrow \dfrac{6x}{5} = 90$$

$$\Rightarrow x = 90 \times \dfrac{5}{\cancel{6}_1}^{15} = 75$$

$\therefore$ acute angle = $\dfrac{1}{5} \times 75 = 15^\circ$

Inequation

Rule

When x is negative $(-x)$ and you want to shift negative sign other side then sign of inequation will also change.

Example 1.

Suppose $-x > 5$

$$\Rightarrow \quad x < -5$$
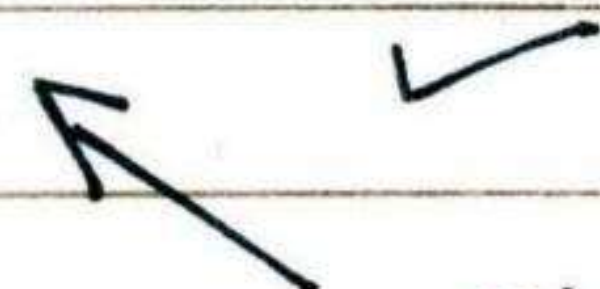
Sign changed

Example 2.

$$-5x < -20$$

$$\Rightarrow \quad x > \frac{-20}{-5}$$

$$\Rightarrow \quad x > 4$$

Exercise 5 C

(1) $\overline{\text{VI}}$ $12 - x > 16$

$\Rightarrow \quad -x > 16 - 12$

$\Rightarrow \quad -x > 4$

$\Rightarrow \quad x < -4 \qquad \qquad [\because \text{Rule}]$

$\therefore$ Solution set

$\{ \quad \}$ or empty set

or No solution

[Because no any element is there
in the replacement set which
is smaller than -4 $(x < -4)$]

$\overline{X}$ $-2x + \dfrac{1}{2} < \dfrac{1}{2}$.

$\Rightarrow -2x < \dfrac{1}{2} - \dfrac{7}{2}$

$\Rightarrow -2x < \dfrac{-6}{2}$

$\Rightarrow -2x < -3$

$\Rightarrow \quad x > \dfrac{-3}{-2}$

$$\Rightarrow \quad x > 1.5$$

Solution Set

$$\{2, 3, 4, 5, 6, 7\}$$

(XI) $\quad 11 - 3x \geq 9$

$$\Rightarrow \quad -3x \geq 9 - 11$$

$$\Rightarrow \quad -3x \geq -2$$

$$\Rightarrow \quad x \leq \dfrac{-2}{-3}$$

$$\Rightarrow \quad x \leq 0.6$$

Solution set = $\{0\}$

$\overline{XII}$ $\quad \dfrac{15}{2} < 2x + \dfrac{5}{2}$

$$\dfrac{15}{2} - \dfrac{5}{2} < 2x$$

$$\dfrac{10}{2} < 2x$$

$$5 < 2x$$

$$\frac{5}{2} < x$$

$$2.5 < x$$

Solution set = $\{3, 4, 5, 6, 7\}$

②　(i)　$x - 2 < 3$, $x \in W$

$\Rightarrow x < 3 + 2$

$\Rightarrow x < 5$

Solution set = $\{0, 1, 2, 3, 4\}$

Number line
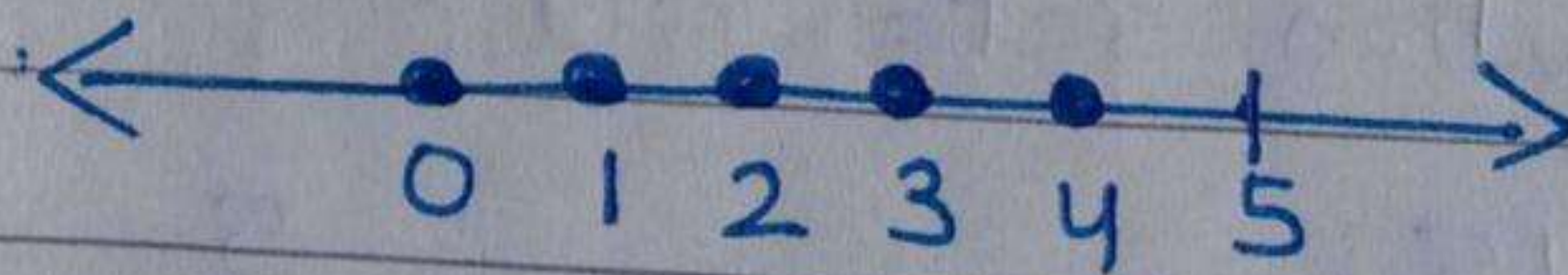
VI $\quad \dfrac{5}{2} - 2x \geq \dfrac{1}{2} \qquad , \quad x \in W$

$\Rightarrow \quad -2x > \dfrac{1}{2} - \dfrac{5}{2}$

$\Rightarrow \quad -2x > \dfrac{-4}{2}$

$\Rightarrow \quad -2x > -2$

$\Rightarrow \quad x < 1$

Solution set

$\qquad = \{0\}$

③ $\underline{\text{V}}$
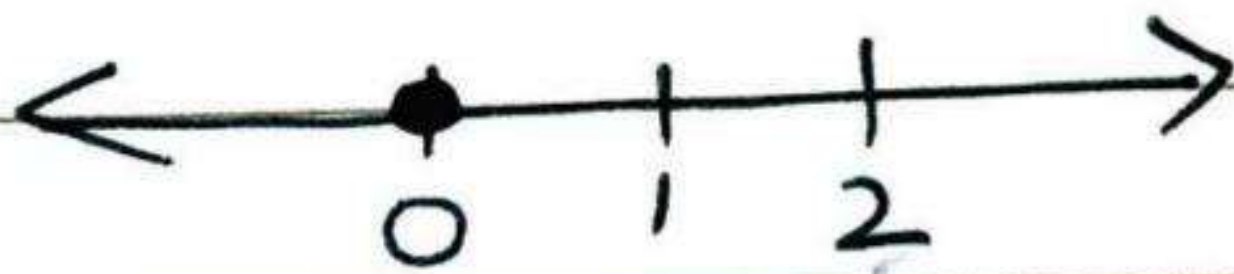
$$2(4x-1) < 4(3x+1)$$

x is a set of −ve no. integ

$$\Rightarrow \quad 8x - 2 < 12x + 4$$
$$\Rightarrow \quad 8x - 12x < 4 + 2$$

$$\Rightarrow \quad -4x < 6$$

$$\Rightarrow \quad x > -\frac{6}{4}$$

$$\Rightarrow \quad x > -1.5$$

Solution set = $\{-1\}$
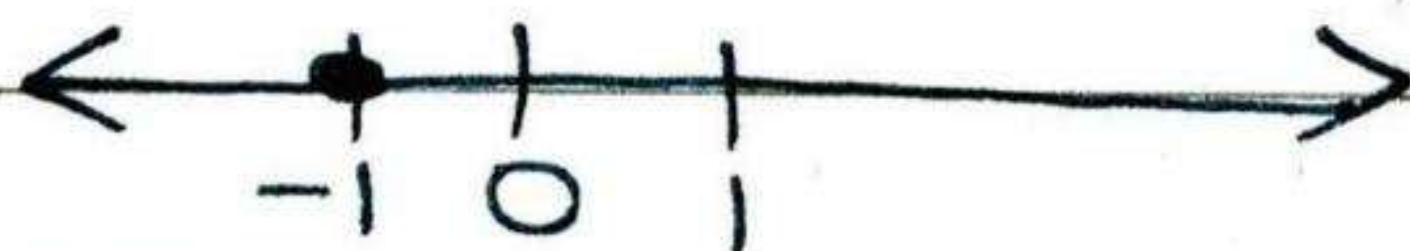
CH – PROBABILITY

① (i) You are older today than tomorrow. (impossible)

(ii) A die when thrown lands up with 7 on top. (impossible)

[∵ 7 is not there in a die]

(iii) Tomorrow will be a Monday, as today is a Sunday. (Certain)

(iv) A tossed coin shows heads. (May happen not sure)

(v) India will win the next hockey world cup. (May happen not sure)

(vi) The current month is June; so the next month is September. (impossible)

(vii) A circle with a smaller area has a smaller radius. (certain)

② (i) The probability of an impossible event is 0 (True)

(ii) The probability of sure event is $\frac{1}{2}$ (False) It is 1

(iii) There is a fifty-fifty chance of getting 2 in a throw of a die.

Solution   Sampe Space = $\{1, \overset{\checkmark}{2}, 3, 4, 5, 6\}$

$P(2) = \dfrac{\text{Favourable outcomes}}{\text{Total outcomes}}$

$= \dfrac{1}{6}$

False

(iv) The probability of tomorrow being a Thursday if the day before yesterday was a Monday is 1

It is a sure event

∴ probability = 1   (True)

V impossible event because red ball can't come out from a bag of ten green balls

So probability will be 0

(3) Write all possible outcomes

(i) the throw of a coin

= { H, T }

(ii) toss of two coins

= { HH, HT, TH, TT }

III the throw of a die

= { 1, 2, 3, 4, 5, 6 }

(iv)   Choosing   a   day

= { Sun., Mon., Tues, Wed., Thurs,

        Friday, Sat. }

(4)   S = { H, T }

P(not getting head) = $\dfrac{\text{Favourable outcome}}{\text{Total outcomes}}$

= $\dfrac{1}{2}$

(5)   S = { HH, HT, TH, TT}

I   P(Tails on both) = $\dfrac{1}{4}$

II   P(Tails at least on one) = $\dfrac{3}{4}$

III   P(Tails on one) = $\dfrac{2}{4}$ = $\dfrac{1}{2}$

(iv) $\quad$ P (No tails) $= \dfrac{1}{4}$

(6) $\quad$ Coin tossed $= 200$ times

$\qquad$ Tails appear $= \quad 103$ times

$\therefore \quad$ Head appears $= \quad 97$ times

$\quad$ P(Head) $= \dfrac{97}{200}$

$\quad$ P(Tail) $= \dfrac{103}{200}$

(7) $\quad$ Sample Space $= \{ 1, 2, 3, 4, 5, 6 \}$

(i) $\quad$ P(6) $= \dfrac{1}{6}$ $\qquad$ [6]

II $\quad$ P(Less than 4) $= \dfrac{3}{6} = \dfrac{1}{2}$ $\quad [\because 1, 2, 3]$

III $\quad$ P(greater than 3) $= \dfrac{3}{6} = \dfrac{1}{2}$ $\quad [\because 4, 5, 6]$

IV $\quad$ P(odd no.) $= \dfrac{3}{6} = \dfrac{1}{2}$ $\quad [\because 1, 3, 5]$

V $\quad$ P(even prime) $= \dfrac{1}{6}$ $\qquad [\because 2]$

(8) (i) Probability (getting 1) = $\dfrac{49}{300}$

(ii) P(getting 3) = $\dfrac{\cancel{52}\ \ \cancel{26}\ \ 13}{\cancel{300}\ \ \cancel{150}\ \ 75}$ = $\dfrac{13}{75}$

III P(getting 5) = $\dfrac{43}{300}$

(iv) P(2 or 6) = $\dfrac{11\cancel{0}}{30\cancel{0}}$ = $\dfrac{11}{30}$

⑨   Red balls = 10
     Blue   ,, = 6
     Total ,, = $\overline{16}$

(i) P(Red ball) = $\dfrac{\cancel{10}\ \ 5}{\cancel{16}\ \ 8}$ = $\dfrac{5}{8}$

(ii) P(Blue ball) = $\dfrac{\cancel{6}\ \ 3}{\cancel{16}\ \ 8}$ = $\dfrac{3}{8}$

(10)   Total pens = 50

           Defective ,, = $\underline{-\ 7}$

∴ Not defective ,, = $\underline{43}$

(i)   P(defective pens) = $\dfrac{7}{50}$

(ii)   P(not defective) = $\dfrac{43}{50}$

(11)   Total no. of students = 200

          Like milk = $\underline{-\ 115}$

∴   does not like milk = $\underline{85}$

(i)   P(Likes milk) = $\dfrac{\cancel{115}^{\ 23}}{\cancel{200}_{40}} = \dfrac{23}{40}$

(ii)   P(does not like milk) = $\dfrac{\cancel{85}^{\ 17}}{\cancel{200}_{40}} = \dfrac{17}{40}$

(13)   Total Numbers of ball = 20

(i) $P(\text{Ball no. } 16) = \dfrac{1}{20}$

(ii) $P(\text{Ball no. } 14 \text{ or } 17) = \dfrac{\cancel{2}^{1}}{\cancel{20}_{10}} = \dfrac{1}{10}$

(iii) $P(\text{a prime number})$

$= \dfrac{\cancel{8}^{2}}{\cancel{20}_{5}} = \dfrac{2}{5}$

$[\because \text{ prime no.} = 2,3,5,7,11,13,17,19]$

(iv) $P(\text{even no.}) = \dfrac{10}{20} = \dfrac{1}{2}$

(v) $P(\text{divisible by } 3) = \dfrac{\cancel{6}^{3}}{\cancel{20}_{10}} = \dfrac{3}{10}$

$[\because 3,6,9,12,15,18]$

(vi) $P(\text{Multiple of } 5) = \dfrac{\cancel{4}^{1}}{\cancel{20}_{5}} = \dfrac{1}{5}$

$[\because 5,10,15,20]$

(14)   Total tickets = 5,00,000

Ravi buys = 1 ticket

Aftab „ = 11 tickets

$\therefore$ P(Ravi wins) = $\dfrac{1}{5,00,000}$

P(Aftab wins) = $\dfrac{11}{5,00,000}$

CH-1
Direct and Inverse

(1)   (i)   Notebooks   ₹

$$12 \quad\diagdown\!\!\!\!\diagup\quad 186$$
$$8 \qquad\qquad x$$

Direct Method

$$12x = 186 \times 8$$

$$\Rightarrow \quad x = \frac{\overset{62}{\cancel{186} \times \cancel{8}^{2}}}{\cancel{12}\,\cancel{8}_{1}}$$

$$= ₹124 \quad \text{Ans}$$

(ii)   Notebooks   ₹

          12   186

          x 356.50

Direct Method,

$$186x = 356.50 \times 12$$

$$\Rightarrow \quad x = \frac{\overset{115}{\cancel{356.50} \times \cancel{12}^{2}}}{\underset{93}{\cancel{186} \times \cancel{10}}} = \frac{230}{10}$$

$$\cancel{311}$$

$$= 23$$

Scanned by TapScanner

(4) **(i)**

Diesel (L)	km
56	476
198	x

Direct Method,

$$56x = 476 \times 198$$

$$\Rightarrow x = \frac{476 \times 198}{56}$$

$$= 1683 \text{ km}$$

(ii)

Diesel (L)	km
56	476
x	408

Direct,

$$476x = 408 \times 56$$

$$x = \frac{408 \times 56}{476} = 48 \text{ L}$$

(6)

Soldiers		Days
1000	————	180−20
		[∵20 days over]
1000+600	————	x

[600 more soldiers came]

As we know men and days are always inverse.

$$\therefore \quad 1600\,x = 1000 \times 160$$

$$x = \frac{100\cancel{0} \times \cancel{160}}{160\cancel{0}} = 100$$

$$= 100 \text{ days.}$$

Let x soldiers joined the camp.

(7)

Soldiers	days
2200	50 − 17
	[After 17 days]
$(2200 + x)$	20

Inverse Method

$$(2200 + x) \times 20 = 2200 \times 33$$

$$\Rightarrow \quad 2200 + x = \frac{\overset{110}{\cancel{2200}} \times 33}{\cancel{20}}$$

$$\Rightarrow \quad 2200 + x = 3630$$

$$\Rightarrow \quad x = 3630 - 2200$$

$$= 1430$$

$\therefore$ 1430 soldiers joined the camp.

(8)   Let no. of labourers = x

12 labourers earn in 12 days = ₹12240

∴   1 labour   "   "   1 day = $\dfrac{12240}{12 \times 12}$

∴ x labourers   "   8 days

$$= \dfrac{12240}{12 \times 12} \times x \times 8$$

$$= 680 x$$

ATQ

$$680 x = 6800$$

$$\Rightarrow x = \dfrac{6800}{680} = 10 \text{ labourers}$$

(9) Wages of 4 men for 30 days = ₹3900

∴ Wage of 1 man for 1 day

$$= \frac{3900}{4 \times 30}$$

∴ Wages of 20 men for 40 days

$$= \frac{\overset{130}{\cancel{3900}}}{\underset{1}{\cancel{4} \times \cancel{30}}} \times \overset{5}{\cancel{20}} \times 40$$

$$= ₹26000$$

(10)

Food (kg)	days	Men
500 ↓	40 ↑	30 ↓
675 ↓	45	x ↓

$$\frac{x}{30} = \frac{\overset{\overset{2}{8}}{\cancel{40}}}{\underset{9}{\cancel{45}}} \times \frac{\overset{\overset{3}{75}}{\cancel{675}}}{\underset{\underset{5}{125}}{\cancel{500}}}$$

$$= \frac{6}{\cancel{5}_1} \times \cancel{30}^6 = 36$$

(11)

Men	hours	days
25 ↑	8 ↑	63
45	7	x ↓

$$\frac{x}{63} = \frac{25}{45} \times \frac{8}{7}$$

$$= \frac{\overset{5}{\cancel{25}}}{\cancel{45}_9} \times \frac{8}{7} \times \overset{7}{\cancel{63}} = 40 \, da$$

(13)

3 Men earns = ₹180	4 Women earns = ₹180
∴ 1 ,, = $\frac{\cancel{180}}{3}$	1 ,, = $\frac{\cancel{180}}{4}$
= 60	= 45
8 ,, = 60×8	12 ,, = 45×12
= ₹480	= ₹540

∴ 8 Men and 12 women earn

$$= \begin{array}{r} 480 \\ + 540 \\ \hline ₹1020 \end{array}$$

CH-2 Time and Work

(1) (i) Rajan can do a job in 60 days

$\therefore$ Rajan's 1 day work $= \dfrac{1}{60}$

(ii) Rajan's 36 days work $= \dfrac{1}{\cancel{60}_{10}} \times \cancel{36}^{6}$

$= \dfrac{3}{5}$

(iii) Number of days $= \dfrac{2}{\cancel{5}_{1}} \times \cancel{60}^{12}$

$= 24$ days

(2) A's 1 day work $= \dfrac{1}{15}$

B's ,, $= \dfrac{1}{10}$

(A + B)'s ,, $= \dfrac{1}{15} + \dfrac{1}{10}$

$= \dfrac{2 + 3}{30} = \dfrac{\cancel{5}^{1}}{\cancel{30}_{6}}$

$= \dfrac{1}{6}$

$\therefore$ A and B can complete the work in 6 days

(3) (i) A's   1 day work $= \dfrac{2}{9}$

   B's   " $= \dfrac{1}{9}$

$\therefore$ (A+B)'s   " $= \dfrac{2}{9} + \dfrac{1}{9}$

          $= \dfrac{2+1}{9} = \dfrac{3}{9} = \dfrac{1}{3}$

$\therefore$ A and B can complete the work in

       3 days

(ii)   Ratio of work $= \dfrac{2}{9} : \dfrac{1}{9}$

         $= 2 : 1$

  Sum of ratio $= 2+1 = 3$

$\therefore$ A's share $= \dfrac{2}{3} \times 900^{300} = ₹600$

   B's   " $= \dfrac{1}{3} \times 900^{300} = ₹300$

(5)   A's   1 day work $= \dfrac{1}{12}$

B can dig $\dfrac{1}{6}$ of the trench in 3 days

∴   B's   1 day work $= \dfrac{1}{6 \times 3} = \dfrac{1}{18}$

∴ (A + B)'s   1 day work $= \dfrac{1}{12} + \dfrac{1}{18}$

$$= \dfrac{3 + 2}{36}$$

$$= \dfrac{5}{36}$$

∴ They can complete the work in

$\dfrac{36}{5} = 7\dfrac{1}{5}$ days

(7) A's 1 day work = $\dfrac{1}{6}$

B's ,, = $\dfrac{1}{8}$

$\therefore$ (A+B)'s ,, = $\dfrac{1}{6} + \dfrac{1}{8}$

$= \dfrac{4+3}{24} = \dfrac{7}{24}$

(A+B)'s 2 days work = $\dfrac{7}{\underset{12}{24}} \times 2^{1} = \dfrac{7}{12}$

Work left = $1 - \dfrac{7}{12} = \dfrac{12-7}{12} = \dfrac{5}{12}$

$\therefore$ A will finish the remaining job in

$= \dfrac{5}{12} \times 6^{1} = 2\dfrac{1}{2}$ days

(8) Let B can complete the job in $2x$ days

$\therefore$ A can complete in x days

A's 1 day work $= \dfrac{1}{x}$

B's " $= \dfrac{1}{2x}$

$(A+B)$'s " $= \dfrac{1}{x} + \dfrac{1}{2x}$

$= \dfrac{2+1}{2x}$

$= \dfrac{3}{2x}$

Now $(A+B)$'s 1 day work $= \dfrac{1}{8}$

A.T.Q

$\dfrac{3}{2x} = \dfrac{1}{8}$

$\Rightarrow x = \dfrac{24}{2} = 12$

$\therefore$ A can complete the job in 12 days

(9) $(A+B)$'s 1 day work = $\dfrac{1}{25}$

$(A+B)$'s 15 days ,, = $\dfrac{1}{25_5} \times 15^3$

$\qquad\qquad\qquad\qquad = \dfrac{3}{5}$

Remaining work = $1 - \dfrac{3}{5} = \dfrac{5-3}{5}$

$\qquad\qquad\qquad\qquad\qquad = \dfrac{2}{5}$

ATQ

A can complete $\dfrac{2}{5}$ of work in 20 days

∴ A can complete whole work in

$\qquad\qquad\qquad\qquad 20 \times \dfrac{5}{2} = 50\,\text{days}$

∴ A's 1 day work = $\dfrac{1}{50}$

B's ,, = $(A+B)$'s − A's

$\qquad\qquad\qquad = \dfrac{1}{25} - \dfrac{1}{50}$

$$= \frac{1}{50}$$

$\therefore$ B can complete the work in

50 days.

---

(10) 8 Men can do in = 25 days | 12 women can do in = 25 days

$\therefore$ (8 Men)'s I day work = $\frac{1}{25}$ | (12 women)'s I day work = $\frac{1}{25}$

I Man's   "   = $\frac{1}{25 \times 8}$ | I woman's   " = $\frac{1}{25 \times 12}$

$= \frac{1}{200}$ | $= \frac{1}{300}$

6 Men's   "   = $\frac{1}{200} \times 6$ |

| 11 women's   " = $\frac{11}{300}$

$= \frac{3}{100}$ |

Together (6 Men + 11 women)

$$= \frac{3}{100} + \frac{11}{300}$$

$$= \frac{9 + 11}{300} = \frac{20}{300} = \frac{1}{15}$$

$\therefore$ They can complete the work in 15 days

(13)

(A + B)'s   1 day work $= \dfrac{1}{6}$ --(i)

(B + C)'s   ,, $= \dfrac{1}{9}$ --(ii)

(A + C)'s   ,, $= \dfrac{1}{12}$ --(iii)

Adding

$\therefore$

(A + B + B + C + A + C)'s   1 day work $= \dfrac{1}{6} + \dfrac{1}{9} + \dfrac{1}{12}$

$\Rightarrow$ 2(A + B + C)'s   ,, $= \dfrac{6 + 4 + 3}{36}$

$\Rightarrow$ (A + B + C)'s   ,, $= \dfrac{13}{36 \times 2}$

   $= \dfrac{13}{72}$ -- (iv)

$\therefore$ (A + B + C) will complete the work in

$$\dfrac{72}{13} = 5\dfrac{7}{13} \text{ days}$$

[To find C's work]

Subtracting equation (iv) — (i)

C's 1 day work = $\dfrac{13}{72} - \dfrac{1}{6}$

$\qquad = \dfrac{13 - 12}{72} = \dfrac{1}{72}$

∴ C can complete the work in 72 days

[To find A's work]

Subtracting equation (iv) — (ii)

A's 1 day work = $\dfrac{13}{72} - \dfrac{1}{9}$

$\qquad = \dfrac{13 - 8}{72} = \dfrac{5}{72}$

∴ A can complete the work in $14\dfrac{2}{5}$ days

[To find B's work]

Subtracting equation (iv) - (iii)

$\therefore$ B's 1 day work $= \dfrac{13}{72} - \dfrac{1}{12}$

$$= \dfrac{13-6}{72} = \dfrac{7}{72}$$

$\therefore$ B can complete the work in $\dfrac{72}{7}$ days

$$= 10\dfrac{2}{7} \text{ days}$$

(14) First Pipe's 1 hour work $= \dfrac{1}{3}$

Second pipe's 1   ,, $= \dfrac{1}{4}$

$(I + II)$ pipe's   ,, $= \dfrac{1}{3} + \dfrac{1}{4}$

$$= \dfrac{4+3}{12} = \dfrac{7}{12}$$

So they will fill the tank in $\dfrac{12}{7}$ hours

$$= 1\dfrac{5}{7} \text{ hours}$$

CH – 4
[Three Dimensional Shapes]

Euler's Theorem

$$\text{Faces} + \text{Vertices} - \text{Edges} = 2$$

On $\qquad F + V - E = 2$

(First Four sums answers are only solutions)

(5) (i) $\qquad$ <u>Cube</u>

Faces = 6

(Corners) Vertices = 8

Edges = 12
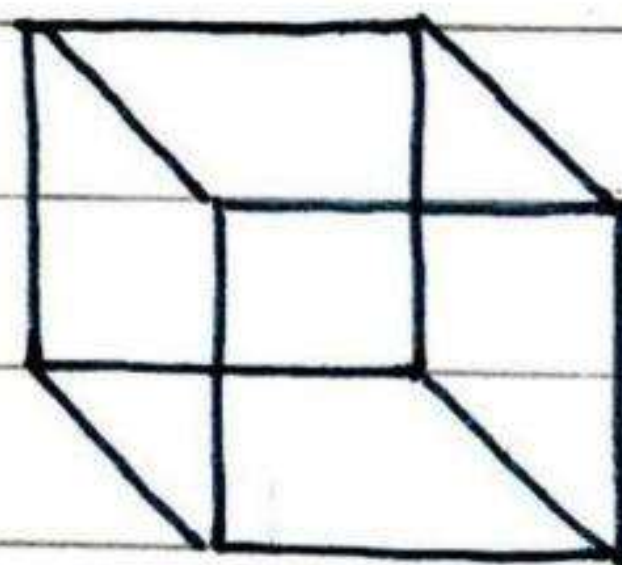
Euler's Theorem

$$F + V - E = 2$$

<u>LHS:</u> $\qquad F + V - E$

$\qquad = 6 + 8 - 12$

$\qquad = 14 - 12$

$\qquad = 2 = \text{RHS}$

$\qquad$ Verified

(ii)   Cuboid
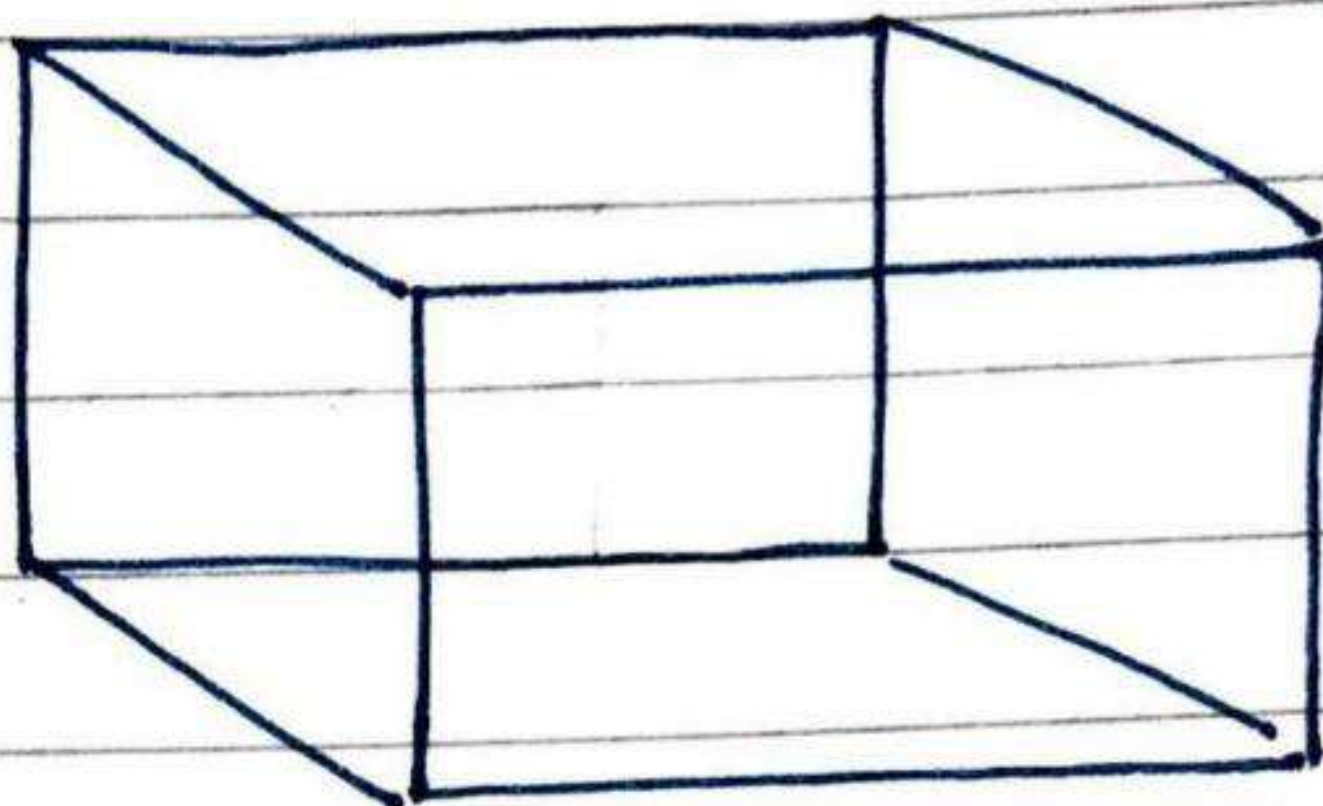
Faces = 6

Vertices = 8

Edges = 12

LHS: F + V − E

   = 6 + 8 − 12

   = 14 − 12

   = 2 = RHS

   Verified

(iii)   Triangular prism
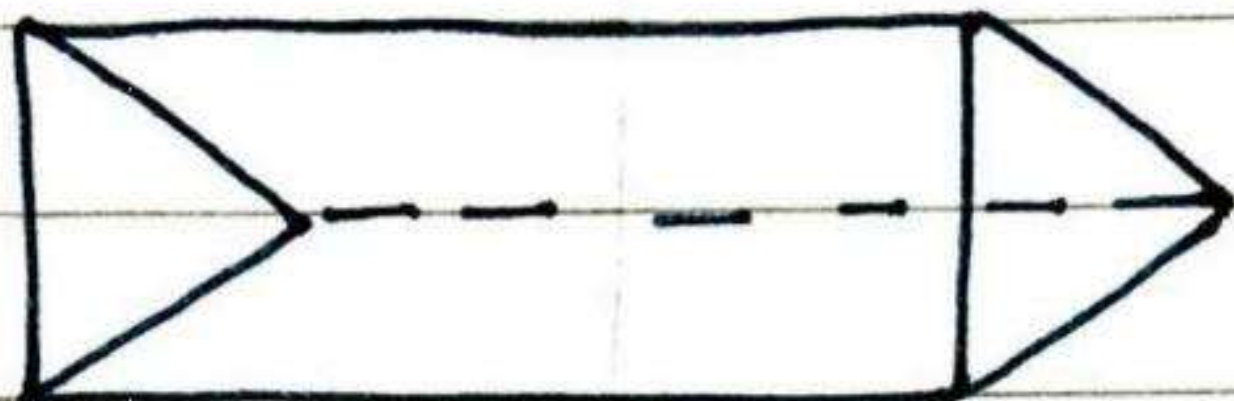
$$F = 5$$
$$V = 6$$
$$E = 9$$

LHS: $F + V - E$

$$= 5 + 6 - 9$$
$$= 11 - 9$$
$$= 2 = RHS$$

Verified

(iv)   Rectangular Prism   (cuboid)
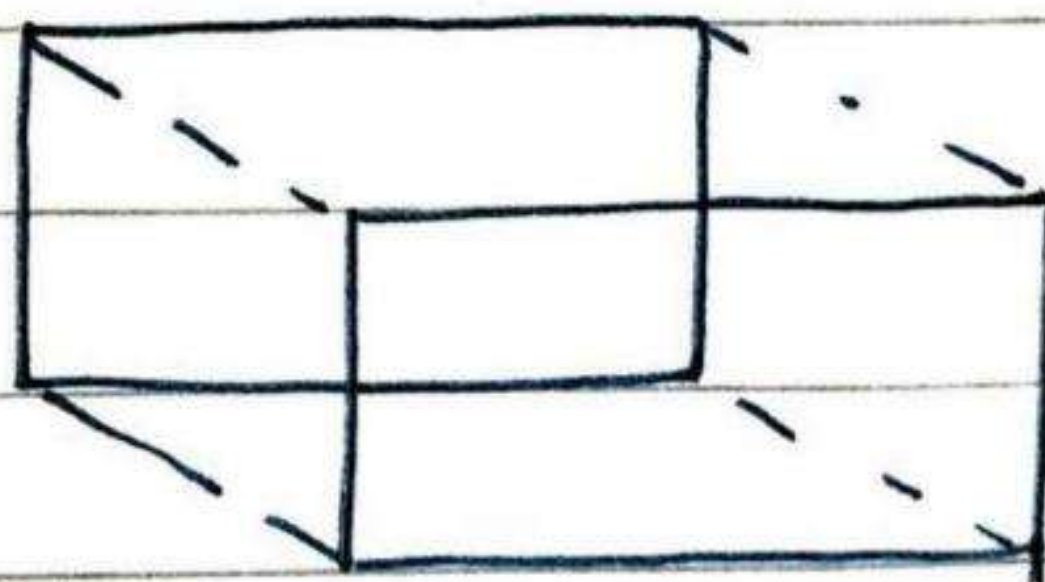
$$F = 6$$
$$V = 8$$
$$E = 12$$

LHS: $F + V - E$

$$= 6 + 8 - 12$$

$$= 14 - 12$$

$$= 2 = RHS$$

(v) A Rectangular pyramid
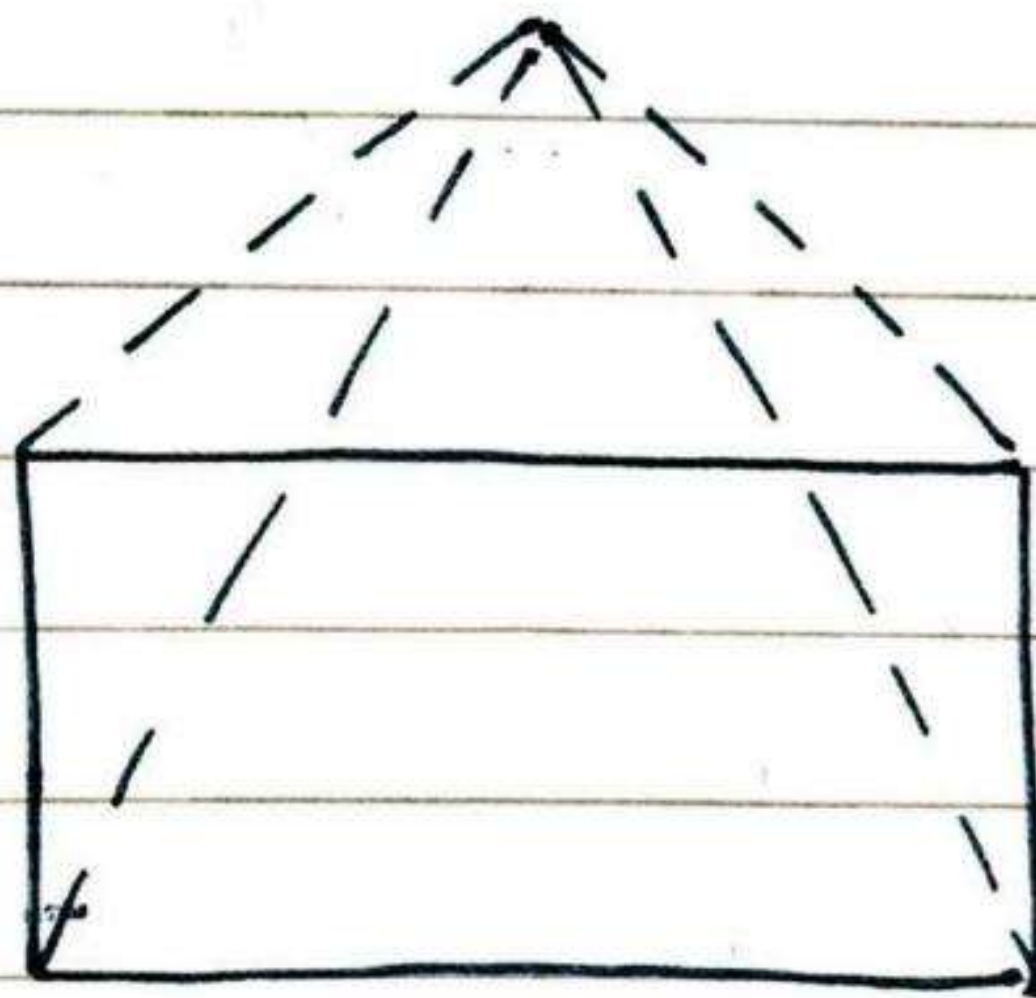
F = 5

V = 5

E = 8

LHS: $5 + 5 - 8$

$$= 10 - 8$$

$$= 2 = RHS$$

(vi)   A   pentagonal   pyramid
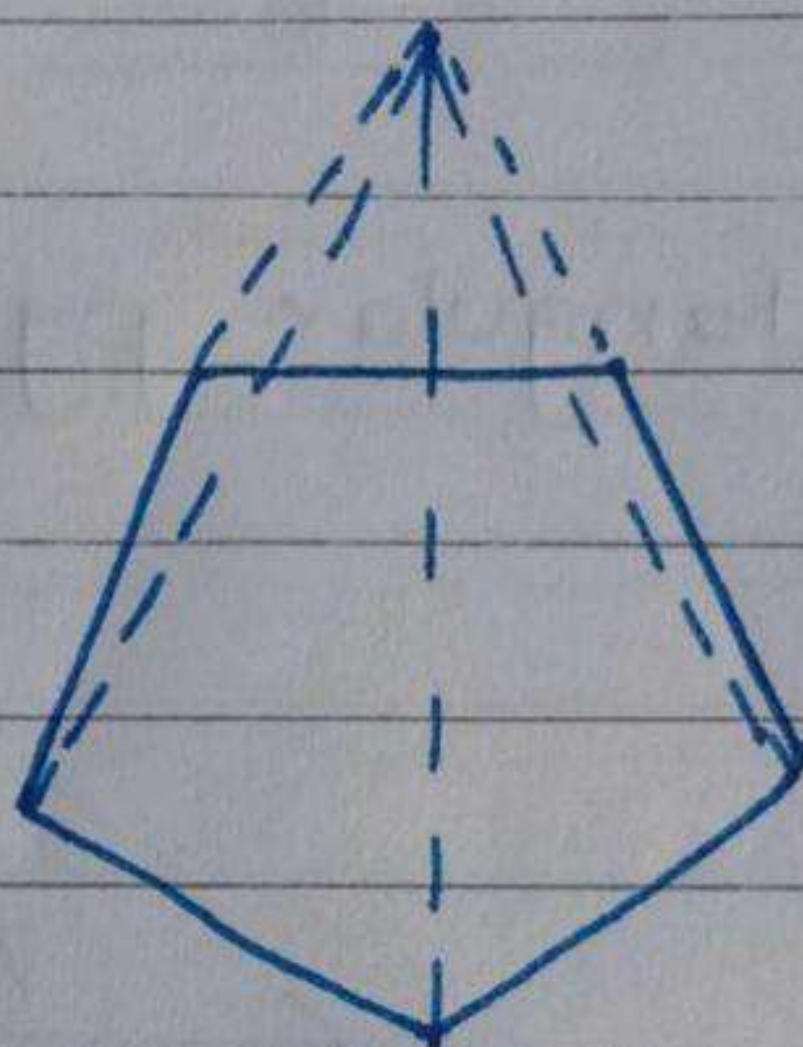
F =   6

V =   6

E =   10

LHS: F + V − E

    =   6 + 6 − 10

    =   12 − 10

    =   2   =   RHS

Verified

Fi

CH . 9

I. Fill in the blanks:

1. The British shattered the **self sufficient** village economy.
2. The controversial Ilbert Bill incident took place in **1883.**
3. The Arms Act forbade the Indians from **possessing arms.**
4. The President of the first session of the Congress was **W.C. Bannerji.**
5. Bal Gangadhar Tilak raised the slogan **"Swaraj is my birthright".**
6. The three prominent leaders of the Radical Nationalists group were **Lala Lajpat Rai, Bal Gangadhar Tilak,** and **Bipin Chandra Pal.**
7. Mahatma Gandhi was bom on 2nd October 1869 at **Porbandar.**
8. Gandhiji's method of agitation were **Satyagraha, boycott** and **strikes.**
9. The incident at Chauri Chaura took place on **5th February 1922.**

III. State whether the following statements are true or false:

1. The Congress was started in 1885.

   True.

2. Unification of India as one political unit was achieved by the Indians themselves.

   False.

3. The British treated the Indians at par with themselves.

   False

4. A prominent leader of the Early Nationalist groups was S.N. Bannerjee.

   True.

5. The religious and social reform ^movement divided the Indians.

   False.

6. The Home Rule League was formed under the leadership of Tilak.

   True.

7. Chauri Chaura is a place in Madhya Pradesh.

   False.

8. Rowlatt Act was passed in 1923.

   False.

II. Match the contents of Column A with those of Column B:

Column A	Column B
1. Annie Besant	(a) Khilafat Movement
2. Morley-Minto Reforms	(b) Home Rule League
3. Muslim League	(c) 1909
4. Surat Split	(d) Nawab Salimullah Khan
5. Ali brothers	(e) 1907

Answer:

1.	Annie Besant	(b)	Home Rule League
2.	Morley-Minto Reforms	(c)	1909
3.	Muslim League	(d)	Nawab Salimullah Khan
4.	Surat Split	(e)	1907
5.	Ali brothers	(a)	Khilafat Movement

Question 1.

How did unification of India help to bring about a feeling of nationalism among the Indians?

Answer:

Political and administrative unification of India helped in the rise of nationalism. Under the British rule India was united as one political unit. The uniformity in laws and administration gave rise to a feeling of oneness among the people.

Question 2.

How did modern education bring about unity among Indians?

Answer:

Indians who received modern education could now read western thought and literature. They were exposed to the revolutionary changes taking place in the west – the American and French Revolutions. They became aware of the ideas of democracy, equality and nationalism. The reform movement also played an important role. All this brought the people together and created unity among them.

Question 3.

Name two early all-India associations.

Answer:

1. British Indian Association, 1851.
2. The Bombay Association, 1852.

Question 4.

Why was the need for establishing an all-India organisation, representing Indian opinion, an urgent necessity?

Answer:

The need for an all India Organisation representing Indian opinion had been felt for a long time, but the immediate reasons which saw its birth, were the repressive policies of the British in the 1870s and the 1880s. In 1883 the controversial Ilbert Bill incident took place. According to it a British or a European in India could be tried by an Indian Judge. The Bill was withdrawn because of the opposition by the British. These events made the need for establishing an all-India organisation, representing Indian opinion an urgent necessity.

Question 5.

Differentiate between the methods of Early Nationalists and Radical Nationalists.

Answer:

The Early Nationalists had faith in the British system of administration and believed that India could develop by staying within the British Empire. They did not demand complete independence but dominion status i.e., autonomy or Swaraj within the British empire. 1905 onwards new trends began to appear in the nationalist movement. Bal Gangadhar Tilak, Lala Lajpat .Rai and Bipin Chandra Pal were the leaders who brought about this change. They said the aim of Indians should be 'Swaraj'. They criticised the policies of the Early Nationalists and said people have to rely on their strength rather than "Prayer and Petition". Tilak raised the famous slogan "Swaraj is my birthright and I must have it".

The methods they suggested to achieve it were:

1. Involvement and participation of the masses
2. Reviving popular Festivals to spread Political awakening among people.
3. New methods of agitation such as hartals and boycott of foreign goods and services.

Question 6.

Which factors contributed to the building up of the feeling of nationalism in India?

Answer:

There are several factors responsible to the building up of the feeling of nationalism in India.

They are :

1. Discontentment against British Rule.
2. Political and Administrative Unification.
3. Economic changes.
4. Spread of modem education.

Question 7.

List down the aims of the Muslim League.

Answer:

Aims of Muslim League:

1. To promote loyalty to the government
2. To protect and advance the interest of the muslims
3. To ensure that Muslims do not develop the feelings of hostility towards other communities in India.

Question 8.

Describe the provisions of the Government of India Act (1919).

Answer:

The Provincial Legislative Councils were enlarged and a majority of their members were to be elected. A new system called Dyarchy was introduced in the provinces. Under this system some subjects, such as finance, law and order were called reserved subjects and remained under the direct control of the Governor. Other subjects such as education, public -health, local self government were called 'transferred' subjects and were to be controlled by ministers responsible to the provincial legislature,

Question 9.

Describe the constructive programme introduced by Gandiji.

Answer:

The social reforms and the constructive programmes introduced by Gandhiji changed the character of the national movement to a mass movement. He worked towards removing untouchability. He also worked for the upliftment of the people living in the villages. He said that the majority of India's population lived in the villages and hence our country could progress only if there was development in the villages. He encouraged setting up small scale industries in villages. He also popularised Khadi. The Charkha became an important symbol. Gandiji believed that Independence was meaningless without social and economic equality.

1. Identify and name them.

   Ans. They are Lala Lajpat Rai, Bal Gangadhar Tilak and Bipin Chandra Pal.

2. Write about the methods which they suggested.

   Ans. They suggested idea of boycott and Swadeshi. They insisted on involvement of the masses.

3. What was the famous slogan raised by Bal Gangadhar Tilak?

   Ans. "Swaraj is my birthright and I must have it."

CH . 10

I. Fill in the blanks:

1. The Swaraj Party was led by **CR. Das** and **Motilal Nehru.**
2. All India Trade Union Congress was founded by **N.M. Joshi** in **1920.**
3. The Quit India Movement took place in the year **1942.**
4. Congress Socialist Party was formed in **1934.**
5. The chairman of the Simon Commission was **Sir John Simon.**
6. The Congress session of March 1940 was presided over by **Maulana Abul Kalam Azab.**
7. Subhash Chandra Bose formed the **Forward Bloc** in 1939.
8. "Diii Chalo" and "Jal Hind" were two slogans given to us by **Netaji Subhash Chandra Bose.**
9. Lord Mountbatten came to India in 1947 as **Viceroy.**

III. State whether the following statements are True or False:

1. The Charkha was a symbol of progress.
   True.
2. The Congress participated in the first Round Table Conference.
   False.
3. The Congress swept the polls in 8 provinces in the 1937 elections.
   True.
4. Sir Stafford Cripps was an American officer sent to India.
   False.
5. Netaji started the Quit India movement
   False.
6. It was because of British presence in India that the country was made a target for Japanese attack.
   True.
7. Netaji was the commander of the Indian National Army.
   True.
8. In 1956, the British government announced its decision to quit India.
   False.

II. Match the contents of Column A and Column B:

Column A		Column B
1. Lord Mountbatten	(a)	Jawaharlal Nehru
2. 'Do or Die'	(b)	Subhash Chandra Bose
3. Revolt of Royal Indian Navy	(c)	Mahatma Gandhi
4. Subhash Chandra Bose resigned from Congress presidentship	(d)	Viceroy
5. Quit India Movement	(e)	1942
6. Azad Hind Fauj	(f)	1939
7. Interim government	(g)	1946

Answer:

1. Lord Mountbatten	(d)	Viceroy
2. 'Do or Die'	(c)	Mahatma Gandhi
3. Revolt of Royal Indian Navy	(g)	1946
4. Subhash Chandra Bose resigned from Congress presidentship	(f)	1939
5. Quit India Movement	(e)	1942
6. Azad Hind Fauj	(b)	Subhash Chandra Bose
7. Interim government	(a)	Jawaharlal Nehru

Question 1.
Discuss the main aspects of the Non-Cooperation Movement.
Answer:
The growing antagonism of the Indians towards the British led to Khilafat and Non-Cooperation Movement. Gandhiji looked upon the Khilafat agitation as an opportunity of uniting Hindus and Muslims as would not arise in a hundred years. The Noncooperation Movement was named so because it decided not to cooperate with the Government by renunication of titles, boycott of legislature, resigning from government jobs, lawyers leaving courts, students leaving British schools and colleges, boycott of British Goods and other activities. People refused to pay taxes, no longer recognising government as legitimate.

Question 2.
How and when did the Civil Disobedience Movement start? How did the government suppress it?
Answer:
Civil Disobedience Movement was started on 12 March, 1930 when Gandhiji marched from his Sabarmati Ashram in Gujarat to Dandi (375 km from Ahmedabad). He carried on this march with 78 followers to break the Salt Law. He defied this law by picking up a handful of Salt formed by the evaporation of Sea water.

Question 3.

Why did the Congress pass the Quit India Resolution? How did the government react to it?

Answer:

The All India Congress Committe met at Bombay on August 8, 1942 and passed the Quit India Resolution. After the Cripps Mission failed, this great Mass struggle for Independence was launched by the Congress. It was the greatest mass challenge to the British authority. It shook the foundations of the British Rule.

Question 4.

Discuss the main features of the Government of India Act, 1935.

Answer:

The Act provided for the establishment of an All India Federation. There was to be a bicameral federal Legislature.

1. Only 14 per cent of the total population in British India was given the right to vote.
2. The federal legislature was denied any real power. Defence and Foreign Affairs remained outside its control while the viceroy retained special control over the other subjects.
3. A new system of government was to be organised in provinces on the basis of provincial autonomy. Ministers responsible to the provincial assemblies were to control all departments of administration.
4. But the Governors were given the powers to veto any legislation and also to legislate on their own. Governors also retained full control over the civil service and the police.
5. The Viceroy and the Governors were to be appointed by the British Government and were to be responsible to it.

Question 5.

Why did India accept the partition proposal even though it did not accept the two-nation theory?

Answer:

Lord Mountbatten came to India in March 1947 as the new viceroy. He presented a plan for the division of India into two independent states India and Pakistan. In 1946 there had been communal riots in Bihar, Bengal and many other places. When partition was announced, more riots took place especially in Punjab. Thousands of people were killed and many more were rendered homeless.

The Congress agreed to the plan of partition not because of any faith in the two nation theory but because it felt that there was no other way to achieve freedom and prevent and destruction.

Question 6.

Discuss the contribution of INA in the freedom struggle.

Answer:

The Indian National Army was formed with a aim to get freedom from British rule. It comprised Indian prisoners of war. Subhash Chandra Bose became the Supreme Commander of the INA. He gave slogan' Dilli Chalo' and 'Jai Hind'. In 1943 Netaji proclaimed the formation of Azad Hind Fauj in Singapore. He proceeded to the Andaman and Nicobar Islands which the Japanese had taken ' from the British and hoisted India's flag there. He then conquered Imphal and Kohima.But the victory was short lived. Britain reestablished control over Burma. The INA was defeated. Japan surrendered after the atom bomb attacks.

Discuss the main clauses of the Indian Independence Act of 1947.

Answer:

Main clauses of the Indian Independence Act of 1947:

1. Two independent dominions, namely India and Pakistan, shall be set up on August 15, 1947 Pakistan was to be comprised of Sind, Baluchistan N.W.F.P, the West Punjab and East Bengal. Rest of the territories were to be included in India.
2. The British Government was to have no control over the affairs of the dominions after August 15, 1947 and world transfer all powers to the Assemblies of India and Pakistan.
3. The office of the Viceroy was to end forth with and replaced by a separate Governor- General for each dominion.
4. The Constituent Assemblies of both the Dominions would frame their respective Constitutions and would decide whether to stay with the British commonwealth or not.
5. The Constituent Assembly of each Dominion shall exercise the power of the Central Legislatures.
6. The Legislature of each of the new Dominions shall have full powers to make laws for that Dominion.
7. The right of the king to veto laws was given up. This right was given to the Governor-General.
8. Till the new Constitution was framed, each of the dominion and all Provinces were to be governed in accordance with the Act of 1935.
9. The states would have the choice to join with either of the dominions or to retain their independence.
10. The Governor-General was given the powers to modify or adopt the Government of India Act, 1935 by March 31, 1948.
11. The office of the Secretary of State for India was to be abolished.
12. Agreements with the tribes of the NWFP were to be negotiated by the Dominion concerned.

1. Which conference is in progress.
   Ans. Second Round Table Conference.
2. **When and where was this conference held?**
   Ans. It was held in London in 1931.
3. Who were the main participants in this conference?
   Ans. It was attended by Agha Khan, B.R. Ambedkar, Madan Mohan Malviya and Gandhiji among others.
4. What was the result of this conference?
   Ans. There was no conclusion again at the conference and it ended in a failure

EXERCISE ANSWER KEY

CH – 5 Natural & Man made Disasters.

I. **Fill in the blanks.**
1. **Calamity**.
2. **Man made**.
3. **Landslides**.
4. **Due to natural factors**.
5. **Uttarakhand**.

II. **Explain the following.**
1. When disasters occur due to natural forces are called natural disasters. A natural disaster is a disruption in the balance of the environment. Some of the natural disasters are:- Earthquake, Tsunami, Flash flood, Volcanic eruptions and Cyclones etc.
2. When disasters occur due to human activities & negligence are called manmade disasters. A manmade disaster can be both, intentional and unintentional. Some of the manmade disasters are:- Nuclear disaster, Chemical or Gas leak, Terrorism, Fire and Accidents etc.
3. A disaster that is linked with both manmade & Natural disasters is called Hybrid disaster. When a disaster is triggered with due to occurrence of one disaster is called Hybrid disaster. For example:- Drought, Landslides & Famine etc.

III. **Answer the following questions.**

1. A disaster is a sudden calamity that may cause displacement of a great number of people, loss of life, property & industry. It often results in the permanent change in surrounding and environment.

2. There are three main types of disasters:- i) Natural disaster ii) Manmade disaster iii) Hybrid disaster.

3. Some causes of disaster are:- i) Uncontrolled Urbanization ii) Human negligence iii) Over & Misuse of natural resource etc.

4. Three effects of the earthquake are;- i) Tsunami ii) Loss of life and demonization of buildings. Iii) fire iv) Epidemic etc.

5. Tsunamis are a series of waves with a long wavelength and period, generated by a large impulsive displacement of the sea bed. Earthquake of seafloor, landslides under water and volcanic activities can trigger a Tsunami. The last Tsunami occurred in India was of 26 Dec 2004

6. The preventive measures during floods are:- i) The electronic appliances and connections must be disconnected. ii) The area must be evacuated at the first sign of warning. iii) Keep stock of essential items like:- drinking water and food etc.

7. The Bhopal Gas Tragedy occurred on the night of 2nd and 3rd Dec 1984.

8. The long term effects of Bhopal Gas Tragedy are:- i) Soil Toxicfication near to UCIL plat. ii) Still birth rate increased up to 300% and neonatal mortality rate by 200%. iii) The hazardous health concern still continues.

9. The main causes of Hybrid disasters are;- Deforestation, Rapid industrialization and over or misuse of natural resources.

10. Disaster management means controlling and reducing the effects of a disaster. A disaster management is concerned with activities like:- creating awareness among the people, prevention of disaster, mitigation of loss due to disaster, rehabilitation and reconstruction of disaster affected areas

11. NDM stands for National Disaster Management framework. Its main objective are to create awareness about disasters, training of engineers, architects and masons for safe construction, train volunteers to mitigate the risk of disasters.

12. The main causes of Uttrakhand flood were heavy rainfall & cloudburst. The main effects of these floods were:- 1) Damage to the roads and bridges left 70000 people get trapped in Kedarnath valley. 2) 5748 people were reported missing and 1000 people were reported dead.

13. The fire safety is the set of practices intended to reduce destruction caused by fire. Fire measures include those that are intended to prevent ignition of an uncontrolled fire, and that are used to limit the development and effects of a fire after it starts. The measures can be taken are:- 1) Install smoke detectors. 2) Fire drills etc.

14. The remote sensing is the science of acquiring and analyzing information about objects & phenomena from a distance through aerial photography and satellite remote sensing. Through remote sensing we collect and analyses the various information, which helps us to detect natural disasters like Tsunami and earthquake etc.

IV. Give reasons.

1. A disaster can be caused by both natural and manmade activities.

2. Because a domestic fire easily turn into uncontrollable fire.

3. Because misuse and overuse of natural resources may lead to a natural disaster.

4. Because natural resources are exploited and misused.

5. Due to Uncontrolled urbanization, deforestation, misuse and overuse of natural resources.

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EXERCISE ANSWER KEY

CH – 7 Asia: Climate, Natural vegetation and Wildlife

I. **Fill in the blanks.**
   6. **Tibet plateau**.
   7. **Ural Mountains**.
   8. **Evergreen / Rain forest**.
   9. **Polar region**.
   10. **Tibet**.

II. **One word answer.**
   4. **Landlocked.**
   5. **Intermountain plateau.**
   6. **Coniferous.**
   7. **Island.**
   8. **Tundra.**

III. **Give reasons.**

   1. Due to change in temperature and pressure over land and sea.

   2. Because ocean currents has moderating influence on the climate of coastal areas.

   3. Because Indonesia is located near equator.

IV. **Distinguish the following.**

   15. Tundra type of vegetation is found in Northern Russia above the Arctic Circle. As the area remain snow covered it consist only mosses and lichens. The equatorial veneration is found on the either sides of the equator. The vegetation is evergreen and variety of trees like:- Rosewood, Rubber and Cinchona etc.

   16. 1) The deciduous trees have broad leaves. 2) They have trees like Teak, Sal, Peepal and Neem etc.

       1) The desert vegetation has thorny leaves. 2) They have plants like:- Cactus, Bushes and Shrubs etc.

   17. 1) The Monsoon forest has vegetation from evergreen to deciduous. 2) It has hardwood trees. 3) For example: - Bamboo, Neem and Sal.

       1) The Taiga type of vegetation is evergreen coniferous trees. 2) It has softwood trees. 3) For example:- Pine, Fir and Cedar etc.

V. **Give reasons.**

   6. Factors that effected climate of Asia are:- Latitude, Distance from the sea, Distance from the sea, Monsoon winds, Direction of the mountain ranges, Ocean currents.

   7. 1) Temperature during summer is high in lower latitude, where as temperature remain moderate above mid latitudes. South Asia gets heavy rainfall during this season by winds called monsoon.

2) Temperature during winter remains very cold in upper latitude, where as it remain moderate to cool in mid latitudes. During winter season eastern parts of Asia gets heavy rainfall.

8. The coniferous forests are found in the broad Taiga belt in the Central parts of Siberia.

9. Refer question IV part (1).

10. Himalayas act as climatic barrier, it do not allow to cold Siberian winds to enter in South Asia as well as it do not allow S-W monsoon winds to escape from South Asia and cause heavy rainfall in this region.

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St. Joseph convent school,Moga

Class -8th

Subject - Physics

Full syllabus of third term

By Manpreet kaur

- Yes, when ~~a~~ ... ~~from~~ one transparent medium to another transparent medium, it bends from its original path at the boundary of separation of two media.

CHAPTER 6. Heat Transfer

Check Point 1
  1. slow; fast   2. different   3. increases

Check Point 2
  1. more   2. $\frac{1}{3}$ 3. three

Check Point 3
  1. volume   2. more   3. loosen/sag

TEST YOURSELF

A. 1. absorbed   2. cooling   3. expand; contract   4. gases
   5. thermal expansion   6. rod or wire   7. volume

B. 1. Linear expansion   2. Area expansion   3. Bimetallic strip

C. 1. **Coefficient of linear expansion:** The increase in the length of the solid rod or wire per unit original length per degree rise in temperature is called coefficient of linear expansion.

   2. **Coefficient of superficial expansion:** The increase in the area of a thin sheet of solid per unit original area per degree rise in temperature is called coefficient of superficial expansion.

   3. **Coefficient of volume expansion:** The increase in the volume of bulk solid per unit original volume per degree rise in temperature is called coefficient of volume expansion.

D. 1. **Aim:** To show that solids expand on heating
   Materials Required: A metal bar, a gauge and a burner
   Procedure: Take a metal bar and a gauge such that the bar exactly fits into the gauge. Take the bar out and heat it over a burner for few minutes. Now, try to fit it again into the gauge. You will not be able to fit it now. This is because the bar has expanded on heating.
   Conclusion: The solids expand on heating.

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2. The linear expansion of a metal rod on heating depends on:
   (a) Original length (L),
   (b) Rise in temperature (ΔT), and
   (c) Nature of the solid material

3. The unit of linear expansion coefficient of a solid is K^{-1}. This unit is also expressed in /°C or °C^{-1} (per degree Celsius). The brass expands more.

4. Coefficient of linear expansion,

$$\alpha = \frac{\text{Increase in length}}{\text{Original length} \times \text{Rise in temperature}}$$

$$= \frac{\Delta L}{L \times \Delta T} \qquad \text{...(i)}$$

Coefficient of superficial expansion,

$$\beta = \frac{\text{Increase in surface area}}{\text{Original area} \times \text{Rise in temperature}}$$

$$= \frac{\Delta A}{A \times \Delta T} \qquad \text{...(ii)}$$

$\because \qquad \beta = 2\alpha$

or $\qquad \beta = \dfrac{2\Delta L}{L \times \Delta T}$

Coefficient of volume expansion,

$$\gamma = \frac{\text{Increase in volume}}{\text{Original volume} \times \text{Rise in temperature}}$$

$$= \frac{\Delta V}{V \times \Delta T} \qquad \text{...(iii)}$$

$$\gamma = 3\alpha$$

$$= \frac{3\Delta L}{L \times \Delta T}$$

$\therefore \qquad \alpha : \beta : \gamma = \dfrac{\Delta L}{L \times \Delta T} : \dfrac{2\Delta L}{L \times \Delta T} : \dfrac{3\Delta L}{L \times \Delta T}$

or $\qquad \alpha : \beta : \gamma = 1 : 2 : 3$

5. If the given thin sheet of solid is heated, its surface area increases and the thermal expansion is called superficial expansion.

The superficial expansion depends on:
   (a) Original area (A)
   (b) Rise in temperature (ΔT)
   (c) Nature of solid material

6. Aim: To show that liquids expand more than solids for a given rise in temperature.

Materials Required: A glass flask, a capillary tube, a rubber cork, a stand and water

Procedure: Take a glass flask fitted with a capillary tube and a rubber cork as shown in the figure. Fill the flask fully with coloured water and fix it in a stand. Note the initial level A of water in the capillary tube. Using a water tub and a burner, start heating the flask. Observe carefully the water level in the capillary tube.
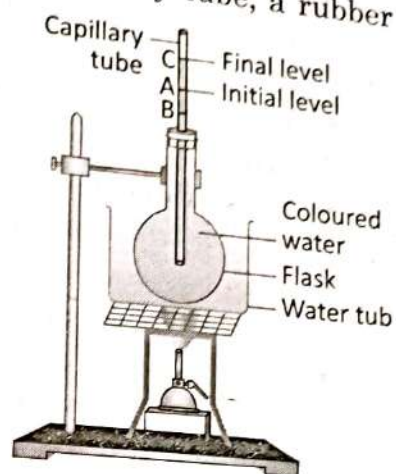
Observation and conclusion: You will observe that, initially, the water level falls to B, but then begins to rise again and finally reaches C. Analyse the cause. Initially, water level falls due to thermal expansion of the flask. Later on, water is heated up and expands. This shows that liquids expand more than solids for a given rise in temperature.

7. The three practical applications of thermal expansion of solids are as follows:

   (a) A small gap is left between two successive rails to make room for thermal expansion while laying rail tracks. If it is not done, the rail may bend due to thermal expansion in summer and it may cause accidents.

   (b) Concrete floors are laid in small blocks with small gaps between the blocks. It allows expansion of blocks during summer and the floor does not crack.

   (c) When telephones and electric wires/cables are connected between two poles in summer, they are intentionally kept loose. This is done to prevent their snapping when they contract in winter.

8. Thermal expansion of liquids, e.g., mercury/alcohol is used in thermometers.

9. A strip consisting of brass and iron rods of equal lengths welded together is called bimetallic strip. The bimetallic strip bends on heating due to unequal expansion for the same rise in temperature.

10. The two rods expand unequally because they have different diameters and thus, different areas.

E. 1. False; All solids expand **differently** when heated to same rise in temperature.

2. True

3. True

4. True

5. False: Expansion coefficient of pyrex glass is less than that of ordinary glass.

6. True

7. True

8. False: **Both** mercury and alcohol expand on heating.

F. 1.–(b)   2.–(d)   3.–(e)   4.–(f)   5.–(c)   6.–(a)

G. 1. While laying a rail track, a small gap is left between two successive rails to make room for thermal expansion in summer.

2. Concrete floors are laid in small blocks having small gaps between the blocks. This provides room for the blocks to expand during summer and the floors does not crack.

3. The iron rim of a wooden wheel is made a little smaller in diameter than the wheel to make them fit tightly over the wheel. The rims are heated before fitting over the wheels and then cold water is poured on rim after fitting so that they contract and grip the wheel tightly.

4. One end of steel girder in a bridge is kept on rollers instead of fixing it to avoid any damage to the bridge due to expansion of girders in summer and contraction in winter.

5. Some empty space is left in sealed wine bottles in order to allow room for thermal expansion of the liquid. If no space is left, especially in summers, the bottles will burst.

6. Metal pipes used for carrying steam have joints in the form of loops because the pipes expand and contract due to change in temperature. As a result, the curvature of loops changes and there is no damage to the pipeline.

H. 1. Linear coefficient of the metal,

$$\alpha = \frac{\Delta L}{L \times \Delta T}$$

$$= \frac{1.0 \text{ cm}}{3 \text{ m} \times (200-0)°C}$$

$$= \frac{1}{3 \times 100 \times 200}$$

$$= \frac{1 \times 10}{6 \times 10^4 \times 10}$$

$$= \frac{10}{6 \times 10^5} = 1.66 \times 10^{-5}$$

$$\simeq 1.7 \times 10^{-5}/°C$$

2. Linear expansion coefficient, $\alpha = ?$

Given, volume expansion coefficient of a solid,
$$\gamma = 7.2 \times 10^{-5}/°C$$

As we know,
$$\gamma = 3\alpha$$

or
$$7.2 \times 10^{-5}/°C = 3\alpha$$

$\therefore$
$$\alpha = \frac{7.2 \times 10^{-5}}{3} = 2.4 \times 10^{-5}/°C$$

3. Coefficient of superficial expansion,
$$\beta = \frac{\text{Increase in surface area, } \Delta A}{\text{Original area, } A \times \text{Rise in temperature, } \Delta T}$$

or
$$2.4 \times 10^{-5} = \frac{\text{Increase in surface area, } \Delta A}{4\text{ m} \times 3\text{ m} \times (80 - 0)}$$

or
$$2.4 \times 10^{-5} \times 12 \times 80 = \text{Increase in surface area, } \Delta A$$

or increase in surface area $= 2.4 \times 96 \times 10^{-4}$ m^2
$$= 2.4 \times 96 \times 10^{-4} \times 10^4 \text{ cm}^2$$
$$(\because 1\text{m}^2 = 10^4\text{cm}^2)$$
$$= 230.4 \text{ cm}^2 \cong 230 \text{ cm}^2$$

4. Coefficient of volume expansion of liquid,
$$\gamma = \frac{\text{Increase in volume of liquid, } \Delta V}{\text{Original volume of liquid, } V \times \text{Rise in temperature, } \Delta T}$$

or
$$12 \times 10^{-4} = \frac{\text{Increase in volume of liquid, } \Delta V}{2\text{ L} \times (40 - 0)°C}$$

$\therefore$ Increase in volume of liquid, $\Delta V = 12 \times 10^{-4} \times 2 \times 40$
$$= 960 \times 10^{-4} \text{ L}$$
$$= 96 \times 10^{-3} \times 10^3 \text{ mL}$$
$$(\because 1\text{L} = \text{mL})$$
$$= 96 \text{ mL}$$

I. 1. (c) **2.** (c) **3.** (b) **4.** (d) **5.** (d)

THINK ZONE

- This is because metals expand more than glass on heating to the same rise in temperature.
- The balloon is filled with air which is a mixture of gases. We know that gases expand on heating and contract on cooling. That is why, a fully inflated balloon shrinks when immersed in ice-cold water.
- High-quality measuring tapes are prepared using an alloy called 'Invar' because it expands very less on heating and the accuracy of tape is maintained.
- The length of the pendulum increases due to thermal expansion during summer, hence, it takes more time to complete one oscillation. As a result, the clock goes slower. On the other

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hand, the length of pendulum decreases due to thermal expansion during winter, hence, it takes less time to complete one oscillation. As a result, the clock goes faster.

CHAPTER 7. Sound

Check Point 1
1. longitudinal
2. hertz
3. fastest; slowest

Check Point 2
1. more
2. frequency of vibration
3. reduced
4. increases

Check Point 3
1. (a) decreasing   (b) tension
2. (a) The unit of loudness is decibel (dB).
   (b) Yes, the loudness of a sound depends on sensitivity of a listener's ear.

TEST YOURSELF

A. 1. vacuum   2. pitch   3. increases   4. more   5. 60   6. prongs; stem   7. increased   8. 100 dB

B. 1. frequency   2. Loudness   3. Pitch   4. Amplitude

C. 1. **Amplitude:** The maximum displacement of a vibrating particle from its mean position on either side is called amplitude.

2. **Wavelength:** The distance between two consecutive compressions or two consecutive rarefactions is called the wavelength. It is donated by λ (lambda).

3. **Longitudinal wave:** A wave vibrating in the direction of propagation is called longitudinal wave. Sound waves are longitudinal waves.

4. **Pitch:** The characteristic of sound which determines its shrillness is called pitch.

5. **Monotone:** A sound of a single frequency is called monotone. A tuning fork is used to produce monotone.

6. **Loudness:** The degree of sensation produced in the ear by a sound is called its loudness.

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D. 1.

High pitch	Low pitch
1. A shrill (sharp) sound having high frequency is called a high-pitched sound.	1. A hoarse (flat) sound having low frequency is called a low-pitched sound.
2. A female has high-pitched sound.	2. A male has low-pitched sound.

2.

Pitch	Loudness
1. Pitch is the characteristic of a sound which determines its shrillness.	1. Loudness of sound is the degree of sensation produced by it in the ear.
2. Pitch of a sound depends on its frequency. As the frequency of vibration increases, the pitch of sound also increases.	2. Loudness of a sound mainly depends on its amplitude. A sound of small amplitude is a soft sound but a sound of large amplitude is a loud sound.

3.

Loud sound	Soft sound
A sound with greater amplitude of vibration is called a loud sound.	A sound with smaller amplitude of vibration is called a soft sound.

E. 1. The nature of sound wave in air is longitudinal.

2. The frequency of sound produced by a string instrument depends upon the length, material, thickness and tightness of the string.

3. The number of vibrations completed per unit time by the sound wave is called its frequency. The SI unit of frequency is hertz.

4. The characteristic which determines the shrillness of sound is called the pitch of a sound. The pitch of a sound depends on its frequency of vibration.

5. The pitch of a sound produced by a wind instrument can be increased by decreasing the length of its air column.

6.

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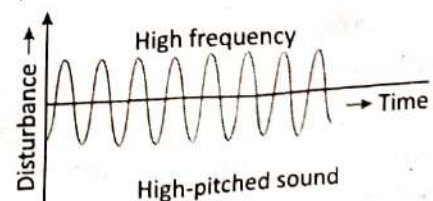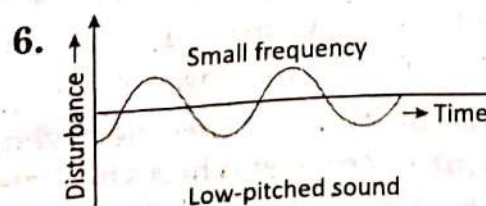
7. The pitch of sound produced by a female is more than that of a male. Due to this reason, female's voice appears different from a male's voice.

8. Loudness of a sound depends on following factors:
   (a) Loudness depends on the amplitude of vibration.
   (b) It depends on the distance between the source of sound and the listener.
   (c) It depends on the surface area of vibrating object.

9.

Loud sound

Soft sound
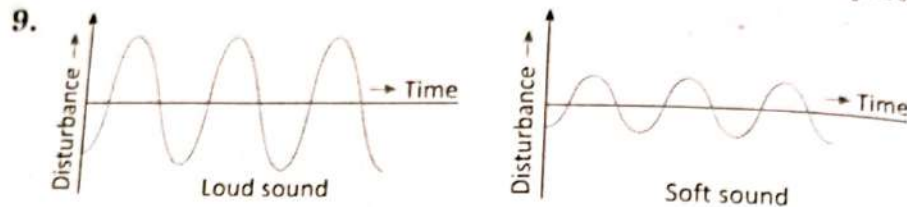
10. A sound of a single frequency is called a monotone. A monotone can be produced by using a tuning fork.

11. The unit of loudness is decibel. The loudness corresponding to energy level 10^{-12} W/m^2 (i.e., of a normal person) is taken as the reference level which is called 0 dB. If energy level is 10^{-11} W/m^2, loudness is taken to be 10 dB and if energy level is 10^{-10} W/m^2, loudness is taken to be 20 dB.

12. (a) Pitch   (b) Loudness

F. 1. False; The SI unit of frequency is **hertz.**
   2. True
   3. True
   4. False; The pitch of a sound depends on **frequency of vibration.**
   5. True
   6. True
   7. False; The SI unit of loudness is **decibel.**
   8. True

G. 1.–(c)   2.–(e)   3.–(a)   4.–(b)   5.–(d)

H. 1. A large drum produces a louder sound than a small drum because its surface area of vibration is more.

   2. When one shouts, he uses more energy and amplitude of vibration of his vocal cords is more. As a result, loud sound is produced.

   3. Shrillness of a sound depends on pitch. Higher is the pitch, shriller is the sound produced. A cuckoo has high-pitched voice and a crow has low-pitched voice. As a result, a cuckoo's high-pitched voice is shriller as compared to crow's voice.

   4. As the loudness of sound depends on the distance between the source of sound and the listener, it decreases when the listener moves away from the source of sound.

5. The length of air column decreases on filling the bucket more. As the length of air column decreases, the pitch of sound increases. Thus, we are able to guess the filling of bucket by hearing the sound produced by water falling in bucket.

6. Smaller the length of air column of a flute, higher is its frequency and also higher is the pitch. A number of holes are made along the length of a flute to produce sounds of different frequencies.

I. 1. Time period of vibration, $T = \dfrac{1}{v}$

$$= \dfrac{1}{400} = 0.0025 \text{ s}$$

2. Here, speed of sound, $v = $ Frequency, $v \times $ Wavelength, λ

$$= 660 \times 0.5$$

$$= 330 \text{ m/s}$$

3. Given, amplitude of first wave of vibration 256 Hz $= x$

Likewise, amplitude of second wave of vibration 288 Hz $= x$

Thus, $\dfrac{\text{Loudness of wave 1}}{\text{Loudness of wave 2}} = \dfrac{x}{x}$

$= 1 : 1$ ($\because$ Loudness mainly depends on amplitude)

4. Since loudness depends on amplitude of frequency, hence, higher the amplitude, louder is the sound.

Here, sound of lower amplitude $= x$

and sound of higher amplitude $= 2x$

Thus, the sound having the larger amplitude ($2x$) is louder.

J. 1. (c) 2. (b) 3. (b) 4. (d) 5. (b) 6. (b)

THINK ZONE

- The voice of a person depends on the pitch of sound produced by him. So we can easily recognise our friend by hearing his voice only.
- Frequency is the most important characteristic of a wave because pitch of a sound wave depends on frequency of its vibration.
- Yes. The speed of light is much more than the speed of sound in air. That is why spectators see the stroke a bit earlier than hearing its sound.

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CHAPTER 8. Electricity

Check Point 1
1. ohm   2. Potential difference   3. kW h   4. 3.6×10^6

Check Point 2
1. live
2. safety device
3. parallel
4. severe shock

Check Point 3
1. (a) repel; attract   (b) Repulsion   (c) negative
2. (a) The process of charging an uncharged conductor by bringing it in electrical contact with a charged body is called charging by conduction.
   (b) Positive charge.

Check Point 4
1. (a) electroscope   (b) diverge   (c) lightning
2. (a) A simple gold leaf electroscope.
   (b) The electric charge present and stored in clouds is called atmospheric electricity.

TEST YOURSELF

A. 1. battery   2. live   3. parallel   4. exceeds   5. kW h   6. live
   7. 200°C   8. Static   9. Copper   10. Attracts
   11. Conduction; induction

B. 1. Electric cell   2. Electric meter   3. Switch   4. MCB
   5. Electric circuit   6. Static electricity   7. Charging by induction
   8. Lightning

C. 1. **Electric power:** The rate at which electrical energy is dissipated in the given electric circuit is called electric power. The SI unit of electric power is watt.

   2. **The commercial unit of electricity (kW h):** One kilowatt hour is the unit of electricity consumed in the circuit when 1 kilowatt of power is used for 1 hour.
   $$1 \text{ kW h} = 3.6 \times 10^6 \text{ J}$$

   3. **Frictional electricity:** Frictional electricity is produced due to transfer of equal and opposite charges between two objects when they are rubbed together.

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4. **Electric induction:** The process of charging an uncharged conductor by bringing a charged body near it, but not touching it, is called electric induction.

5. **Principal of conservation of charge:** Principle of conservation of charge states that electric charge can neither be created nor be destroyed and so the sum total of charges always remains conserved.

6. **Electroscope:** A device used to detect charge on a body is called an electroscope.

7. **Lightning:** A huge electric spark taking place among the clouds when the moisture content in the clouds becomes large is called lightning.

D. 1.

Live wire	Neutral wire
1. It is the wire in household electric circuit which carries current from mains supply to various appliances.	1. It is the wire in household electric circuit meant for return path for current from the house to mains supply.
2. Live wire is also called phase wire which is maintained at 220 V.	2. It is maintained at 0 V.

2.

Electric power	Electrical energy
1. The rate at which electrical energy is dissipated in the given electric circuit is called electric power.	1. The energy consumed in an electric circuit shown by the product of voltage, current and time of current flow is called electrical energy.
2. The SI unit of electric power is watt.	2. The SI unit of electrical energy is joule.

3.

Charging by conduction	Charging by Induction
1. The charged body is brought in actual contact of the body to be charged.	1. The charged body is brought close to the body to be charged but never in contact with it.
2. Charge is actually transferred by conduction from charged body to the uncharged body.	2. There is no actual transfer of charge from the charged body but charge is induced on the uncharged body.
3. Charge produced on the body being charged is of same nature as the charge on the charged body.	3. Charge produced on the body being charged is opposite to the nature of charge on the charged body.

4.	Charge on a glass rod when rubbed with silk fibre	Charge on an ebonite rod when rubbed with wool
	1. When a glass rod is rubbed with a silk cloth, some electrons are transferred from the glass rod to the silk cloth.	1. When an ebonite rod is rubbed with wool, some electrons are transferred from wool to the ebonite rod.
	2. Silk becomes negatively charged due to having an excess of electrons. On the other hand, glass rod becomes positively charged due to having deficiency of electrons.	2. Ebonite rod becomes negatively charged due to having an excess of electrons. On the other hand, the wool becomes positively charged due to having a deficiency of electrons.

E. 1. The rate of flow of electric charge in an electric circuit is called electric current. The unit of electric current is ampere.

2. No, electric current cannot flow through an insulator because it does not conduct electricity.

3. Electrical energy, E = Voltage, V × Current, I × Time, t

$$= V \times I \times t$$

$$= IR \times I \times t$$

$$= I^2 Rt \qquad (\because V = IR)$$

4. The rate at which electrical energy is dissipated in the given circuit is called electric power.

As per definition, if E energy is being dissipated in a circuit during the time t, then

$$\text{Electric power, } P = \frac{\text{Energy, } E}{\text{Time, } t}$$

$$= \frac{VIt}{t} \qquad (\because E = VIt)$$

$$= VI$$

So, electric power, P = Voltage, V × Current, I

5. The commercial unit of electrical energy is kW h. One kilowatt hour is the electrical energy consumed when 1 kilowatt of power is used for 1 hour.

Electrical energy consumed in kW h,

$$E = \frac{P \text{ (in watts)} \times t \text{ (in hours)}}{1000}$$

$$= \frac{V \text{(in volts)} \times I \text{ (in amperes)} \times t \text{ (in hours)}}{1000} \qquad (\because P = VI)$$

4.	Charge on a glass rod when rubbed with silk fibre	Charge on an ebonite rod when rubbed with wool
	1. When a glass rod is rubbed with a silk cloth, some electrons are transferred from the glass rod to the silk cloth.	1. When an ebonite rod is rubbed with wool, some electrons are transferred from wool to the ebonite rod.
	2. Silk becomes negatively charged due to having an excess of electrons. On the other hand, glass rod becomes positively charged due to having deficiency of electrons.	2. Ebonite rod becomes negatively charged due to having an excess of electrons. On the other hand, the wool becomes positively charged due to having a deficiency of electrons.

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$$= \frac{V \text{ (in volts)} \times I \text{ (in amperes)} \times t \text{ (in hours)}}{1000} \qquad (\because P = VI)$$

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4.	Charge on a glass rod when rubbed with silk fibre	Charge on an ebonite rod when rubbed with wool
	1. When a glass rod is rubbed with a silk cloth, some electrons are transferred from the glass rod to the silk cloth.	1. When an ebonite rod is rubbed with wool, some electrons are transferred from wool to the ebonite rod.
	2. Silk becomes negatively charged due to having an excess of electrons. On the other hand, glass rod becomes positively charged due to having deficiency of electrons.	2. Ebonite rod becomes negatively charged due to having an excess of electrons. On the other hand, the wool becomes positively charged due to having a deficiency of electrons.

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$$\text{Electric power, } P = \frac{\text{Energy, } E}{\text{Time, } t}$$

$$= \frac{VIt}{t} \qquad (\because E = VIt)$$

$$= VI$$

So, electric power, P = Voltage, V × Current, I

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Electrical energy consumed in kW h,

$$E = \frac{P \text{ (in watts)} \times t \text{ (in hours)}}{1000}$$

$$= \frac{V \text{(in volts)} \times I \text{ (in amperes)} \times t \text{ (in hours)}}{1000} \qquad (\because P = VI)$$

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6. $1 \text{ kW h} = 1000 \text{ W h}$
   $= 1000 \text{ W} \times 60 \times 60 \text{ s}$
   $= 3.6 \times 10^6 \text{ W s} = 3.6 \times 10^6 \text{ J}$

7.

Wire	Colour of insulation	
	Old code	New code
Live	Red	Brown
Neutral	Black	Light-blue
Earth	Green	Yellow

8. A safety device which limits the current in an electric circuit is called a fuse.
   The electric fuse works by melting and breaking the circuit in case of overloading or short-circuiting.

9. An alloy of lead and tin is used to prepare a fuse wire because it has melting point of about 200°C. The thick fuse wire has higher current rating.

10. Different appliances in household electric circuit are connected in parallel. This is done to make the appliances work independently so that if one of these appliances gets fused or broken, others work smoothly.

11. Two types of electric charges are positive and negative charges.

12. When an ebonite rod is rubbed with wool or flannel, electrons are transferred from wool to ebonite rod. The ebonite rod becomes negatively charged due to having an excess of electrons. On the other hand, the wool becomes positively charged due to having deficiency of electrons.

13. Take a glass rod and charge it by rubbing with a silk piece. Suspend it from a rigid stand using a silk thread. Now, take an ebonite rod. Rub it with wool to charge it and then bring it near the suspended glass rod. The glass rod is found to be attracted by the ebonite rod. It shows that oppositely charged objects attract each other.

Glass rod (rubbed with silk cloth)

Glass rod gets attracted towards ebonite rod

Ebonite rod (rubbed with flannel)
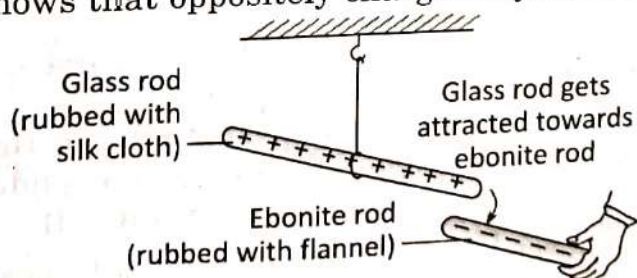
14. The law of conservation of electric charge states that electric charge can neither be created nor be destroyed and so, the sum total of charges always remains conserved.

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15. Take a glass rod and a piece of silk. Initially, both are uncharged and thus, total charge present is zero. Now, rub the glass rod with the silk piece so that the glass rod acquires a positive charge. As, in accordance with the principle of conservation of electric charge, total charge must remain zero even now, i.e., the silk piece must have acquired an equal amount of negative charge. This shows that whenever two objects are charged by rubbing, equal and opposite charges are produced on them.

16. A gold leaf electroscope consists of a metal rod passing through an insulator plug in a glass case.

    The top end of the rod is connected to a metal disc and two thin gold leaves are connected at its lower end. Inside the glass case, a metal foil surrounds the glass case in the lower part.
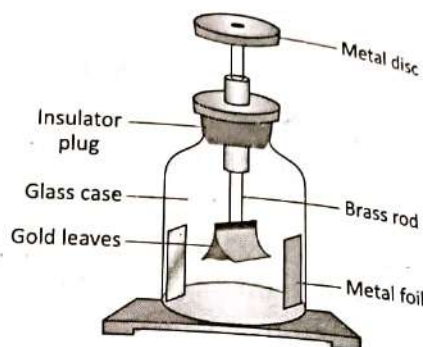
17. Following steps are required to charge a conductor positively by the method of induction.

    (i) Put the given conductor A on an insulating stand as shown in Fig. (a).

    (ii) Take an ebonite rod and rub it with wool so that it acquires negative charge. Bring the ebonite rod near conductor A but do not touch it. Equal and opposite charge is developed on the conductor as shown in Fig. (b).

    (iii) Keeping ebonite rod in its position, touch the conductor A with your finger so that negative induced charge goes to the earth but positive induced charge remains intact as shown in Fig. (c).

    (iv) Now, remove your finger and also remove the ebonite rod. The induced positive charge spreads on conductor A and it gets positively charged as shown in Fig. (d).
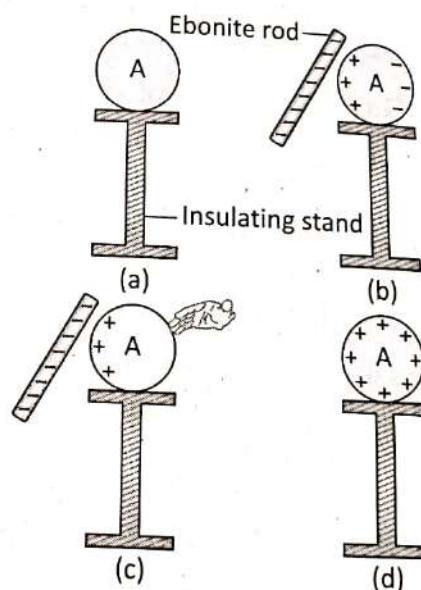
18. Clouds get charged when water and ice particles move rapidly inside them. It is observed that positively charged particles move to the upper part of clouds and negatively charged particles rest at the lower part of clouds, thereby, making bottom of a cloud as negatively charged. As a result of it, positive charge is induced

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on the earth's surface. When negative charge on bottom part of the cloud becomes too large, it overcomes the air resistance and flows towards the earth causing lightning.

19. A lightning conductor consists of a thick copper strip fitted on the outside of a building having metal spikes with sharp edges at the top. On the lower side, the copper strip is connected to a metal plate which is buried deep inside the wet soil. When a charged cloud having negative charge at its bottom side comes above a lightning conductor, positive charge is induced on the spikes which may neutralise negative charge of the cloud and lightning is prevented. Even if lightning takes place, then the lightning conductor provides a safe path for electric discharge to flow down to the earth and there is no damage to the building.

F. 1. False; A kilowatt hour is the unit of **electrical energy.**

2. True

3. False; An electric switch is connected with **live wire.**

4. False; One will **not** get an electric shock if one touches an earthed electrical appliance.

5. True

6. True

7. True

8. False; When an ebonite rod is rubbed with wool, the electrons move **from wool to ebonite rod.**

9. False; **Repulsion** is the sure test of electrification.

10. True

11. True

12. False; Lightning is caused when **the moisture content in the clouds becomes large.**

G. 1.–(c)   2.–(e)   3.–(d)   4.–(f)   5.–(g)   6.–(a)   7.–(h)   8.–(b)

H. 1. An electric heater consumes a power of 1000–1500 W when operated on 220 V electric supply. On the other hand, a LED bulb consumes a power of 1–10 W when operated on 220 V electric supply. As electric heater consumes more power than a LED bulb, therefore, it draws more current.

2. Earth wire is connected to the earth to provide safe path to electric charge in case of leakage of charge. This avoids the risk of electric shock to the user.

3. To identify and distinguish easily between these three wires, they have insulation of different colours.
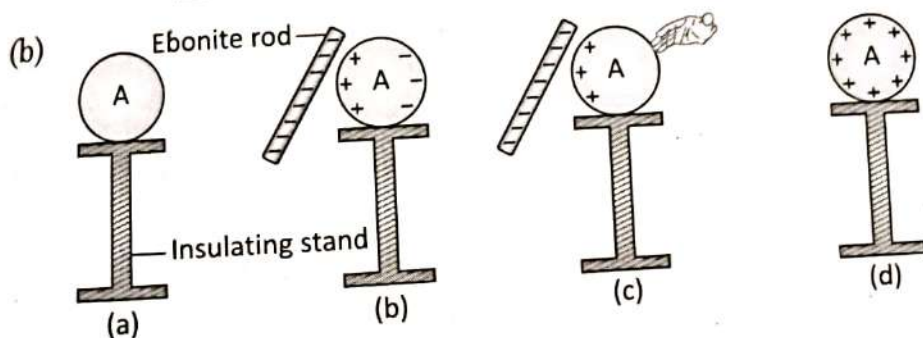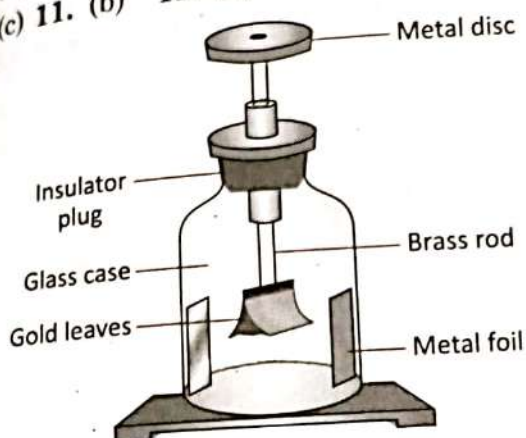
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Electricity consumed, $E = Pt$

$$= 2 \text{ kW} \times 2 \text{ h}$$
$$= 4 \text{ kW h}$$
$$= 4 \text{ units}$$

The cost of 1 unit = ₹ 5.5
The cost of 4 units = ₹ 5.5 × 4
$$= ₹ 22$$

J. 1. (d) 2. (c) 3. (a) 4. (b) 5. (b) 6. (b) 7. (b) 8. (b) 9. (a)
10. (c) 11. (b) 12. (d)

K. (a)

(b)

(a)   (b)   (c)   (d)

(c)
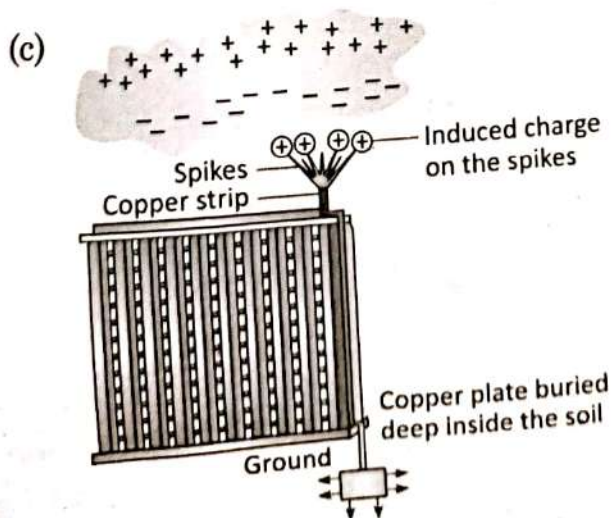
THINK ZONE

- Woollen/polyester clothes develop static charge on them due to friction. While taking off our sweater, these charge moves in streams between the sweater and our body, i.e., electric discharge takes place. As a result, we see a spark or hear a crackle.
- No, because conductors cannot be charged in this way as electrons will pass to our body from the metal rod.
- Tungsten metal is used exclusively for designing filaments of electric bulbs because it has very high melting point and does not melt easily.
- Yes, superconductors are metals that allow electricity to pass through them without any resistance below a certain temperature.

SaintJoseph's Convent School,Moga

Answer key of Chemistry

Class-8 Chapter-8(Water)

Ans-1

Water is called a universal solvent as it dissolves a larger number of substances than any other.) A₁₀

Ans-2

I) Solution

II) Unsaturated Solution

III) Saturated Solution

Ans-3

A suspension is a heterogeneous mixture of one or more dispersed phases in a dispersion medium.

Muddy water is a common example of a suspension.

Ans-4 A colloid is a homogenous mixture of one or more dispersed phases in a dispersion medium. Ex-Milk, jam .

Ans-5

Type of mixture	Size of dispersed particles
Solution	Smaller than 1mm $(10^{-9} m)$
Suspension	10^{-6} m or more
colloid	Between 10^{-9} m and 10^{-6} m

Ans-6

I) Water that lathers easily with soap is called soft water.

II) Water that does not lather easily with soap is called hard water.

Ans-7 Calcium Bicarbonate and Magnesium Bicarbonate cause temporary

hardness of water.

Ans-8 Calcium Sulphate, Calcium Chloride, Magnesium Sulphate and Magnesium Chloride.

Ans-9 Washing Soda Or Sodium carbonate.

Ans-10 Sodium Hydroxide (NaOH)

LONG QUESTION ANSWERS

Ans-1

Characteristic	Solution	Suspension	Colloid
1. Type of mixture	Homogeneous	Heterogeneous	Homogeneous
2. Settling of the solute/ dispersed particles	Do not settle	Settle	Do not settle
3. Behaviour towards light	Transparent	Not transparent, scatters light	Not transparent, scatters light
4. Size of the solute/ dispersed particle	Smaller than 1 nm $(10^{-9}$ m$)$	10^{-6} m or more	Between 10^{-9} m and 10^{-6} m

Ans-2

Ans: The water molecules associated with a substance in a crystal and forming a part of the crystalline structure and are together referred to as water of crystallisation.

Take a few crystals of blue vitriol in a dry test tube and heat gently. We will observe that:

(i) The salt will slowly lose its blue colour, turning into white.

(ii) The crystals will crumble down to a powdery substance.

(iii) Some colourless liquid drops will collect in the colder part of the test tube.

Water drops
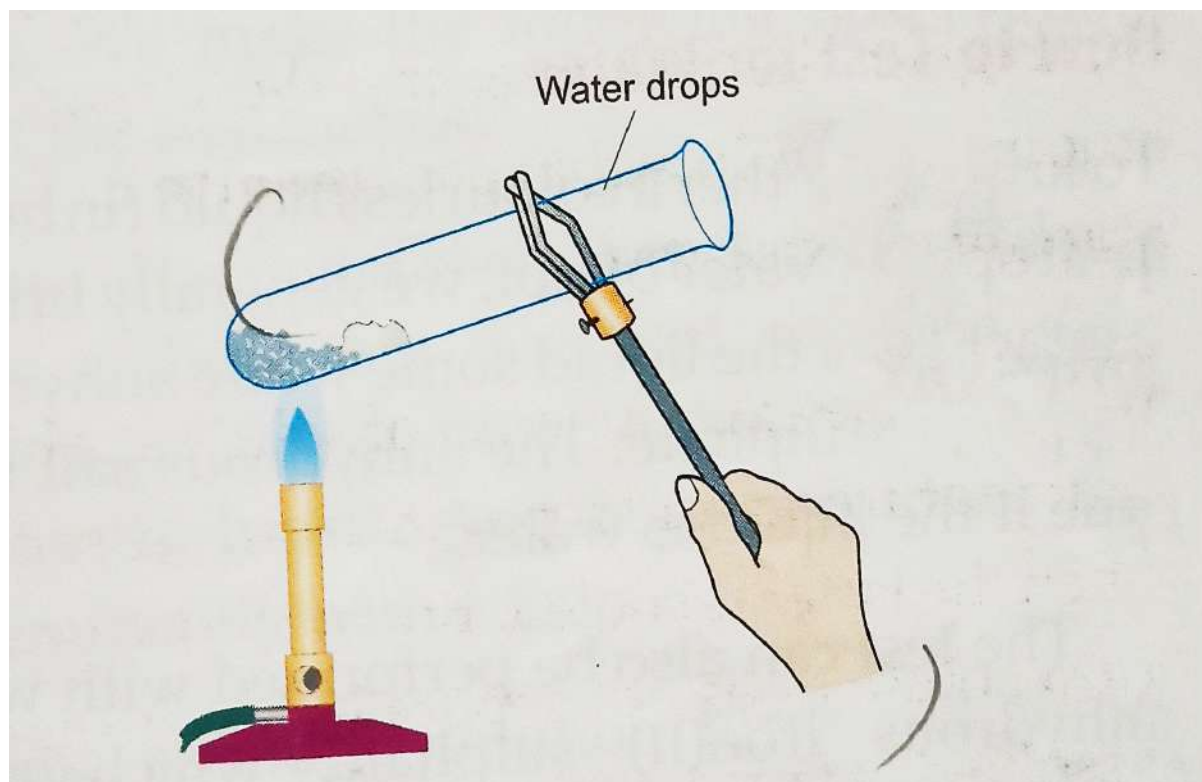
(iii) On testing with blue cobalt chloride paper, it is confirmed that it is water. (Blue paper changes into pink.)

The blue copper (II) sulphate pentahydrate, on being heated, loses the water molecules and change to white anhydrous copper (II) sulphate. The crystalline structure of the hydrated salt is lost when it loses the water molecules. Thus, the water of crystallisation is a part of the crystalline structure.

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Ans-3

Ans- Hygroscopic Substances :- A substance that absorbs moisture from the atmosphere is called a hygroscopic substance. example :- $CaCl_2$, $MgCl_2$, $NaOH$, etc.

Deliquescent substances :- A solid hygroscopic substance, which absorbs so much of the moisture atmospheric pressure that the solid dissolves in it and forms a concentrated solution, is called a s deliquescent substance. example, $CaCl_2$, $MgCl_2$, $NaOH$, etc. are deliquescent. Uses of hygroscopic and deliquescent substances are :-

(i) They are generally used as drying agents.

(ii) Calcium chloride, sodium hydroxide, soda lime and sulphuric acid are used in scientific work.

(iii) They are also used for making milk powder from milk.

Ans-4

Water that lathers easily with soap is called *soft water.* A6.

Water that does not lather easily with soap is called *hard water.*

It is necessary to soften water because hard water is unfit for most domestic and industrial purposes.

1. Hard water is unfit for laundries as it
   (a) consumes too much soap, and
   (b) leaves dirty stains of calcium and magnesium salts of fatty acids on cloth. A40 Long (ii)

2. Hard water is not very suitable for bathing. The precipitates of calcium and magnesium salts of fatty acids, formed on reaction with soap, cause irritation of the skin.

3. It is not possible to properly cook hard foodstuff, like pulses, in hard water.

4. Though not injurious to health, hard water does not have an agreeable taste.

If the hardness of water is removed, soft water is produced and the process is called softening of water.

The following methods are used to soften water.

1. Boiling Temporarily hard water can be softened by boiling it. When such water is heated, the hydrogencarbonates of calcium and magnesium are decomposed to the carbonates. Being insoluble, the carbonates precipitate out.

$$Ca(HCO_3)_2 \rightarrow CaCO_3\downarrow + CO_2\uparrow + H_2O$$

calcium hydorgencarbonate   calcium carbonate

2. Treating with washing soda Permanent hardness of water is removed by treating with washing soda ($Na_2CO_3.10H_2O$). A solution of washing soda is added to the water, and the carbonates of calcium and magnesium are precipitated.

$$CaSO_4 + Na_2CO_3 \rightarrow CaCO_3\downarrow + Na_2SO_4$$

calcium sulphate   sodium carbonate   calcium carbonate   sodium sulphate (in solution)

$$CaCl_2 + Na_2CO_3 \rightarrow CaCO_3\downarrow + 2NaCl$$

calcium chloride   sodium carbonate   calcium carbonate   sodium chloride (in solution)
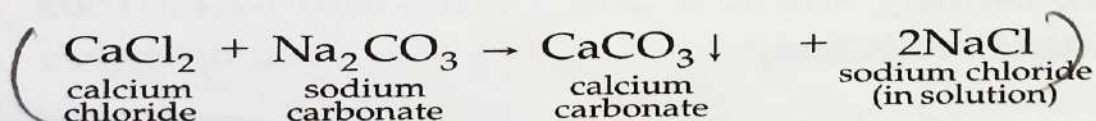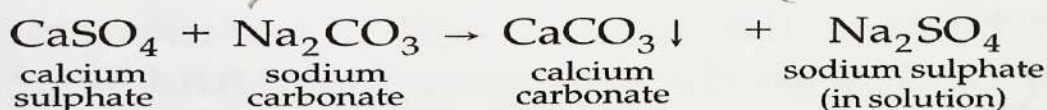
Ans-5

Action of sodium on water

We infer that (sodium reacts vigorously with water to form sodium hydroxide and liberate hydrogen. At the same time, the reaction is highly exothermic and so the metal melts to form a globule.

$$2Na(s) + 2H_2O(l) \longrightarrow 2NaOH(aq) + H_2(g)$$

sodium   sodium hydroxide   hydrogen

(alkaline)

AS Long

| | Turns red litmus blue | Burns with a 'pop' |
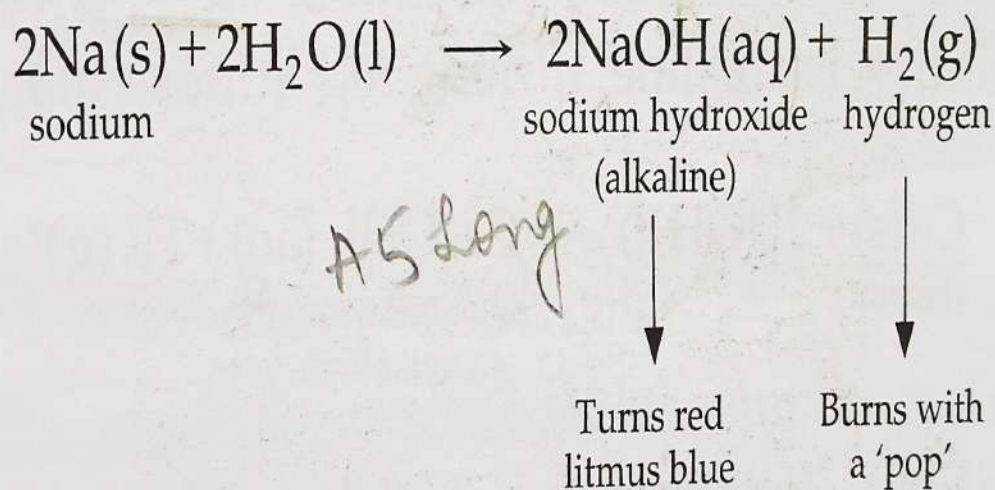
The hydrogen burns with a 'pop'. And *yellow* sparks are produced by small Aticles of sodium.

The action of calcium on water AS.

Calcium is heavier than water and a piece of the metal sinks in it. The evolution of hydrogen starts briskly but slows down soon as the lime produced forms a coating on the metal. Calcium hydroxide (slaked lime) is much less soluble than sodium hydroxide or potassium hydroxide and makes the solution turbid. The solution is alkaline, turning red litmus blue.

$$Ca(s) + 2HOH(l) \longrightarrow Ca(OH)_2(aq) + H_2(g)$$

calcium   calcium hydroxide
(alkaline)
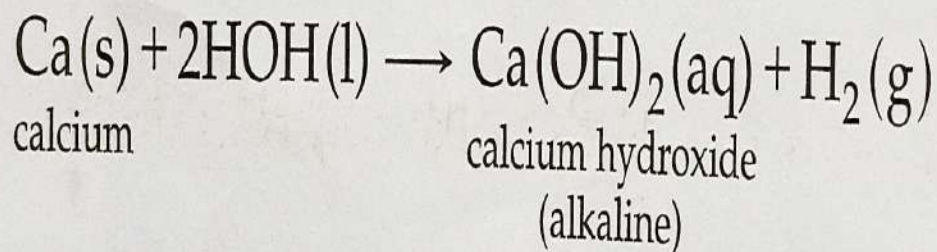
Choose the correct option.

1. Crystallisation is generally done from
   (a) an unsaturated solution
   (b) a supersaturated solution ✓
   (c) a suspension
   (d) a colloid

2. Which of the following substances will cause temporary hardness of water?
   (a) NaCl
   (b) $Ca(HCO_3)_2$ ✓
   (c) $MgSO_4$
   (d) Na_2SO_4

3. Which of the following substances will cause permanent hardness of water?
   (a) $Mg(HCO_3)_2$
   (b) $Ca(HCO_3)_2$
   (c) $MgSO_4$ ✓
   (d) NaCl

4. Which of the following substances can remove the temporary as well as permanent hardness of water?
   (a) Baking soda
   (b) Common salt
   (c) Washing soda ✓
   (d) Rock salt

5. Which of the following is a hygroscopic substance?
   (a) Anhydrous calcium sulphate
   (b) Silica gel ✓
   (c) Hydrochloric acid
   (d) Blue vitriol

Fill in the blanks.

1. A solution that can dissolve more solute is a/an ...... solution. (saturated/unsaturated ✓)

2. Water is a ...... solvent. (polar ✓/nonpolar)

3. Muddy water is a .... (suspension ✓/colloid)

4. The white anhydrous salt that becomes green upon addition to water is .... ($CuSO_4$/$FeSO_4$ ✓)

5. ...... hardness of water can be removed by boiling. (Temporary ✓/Permanent)

Write 'T' for true and 'F' for false for the following statements.

1. The polarity of water enhances its solvent property. *True*

2. Anhydrous copper(II) sulphate is ~~not~~ crystalline but its pentahydrate is ~~not.~~ *False*

3. Hard water is suitable for washing clothes. *False.* [*soft*]

4. The solution left after the reaction of sodium with water is alkaline. *True*

5. Magnesium burns in steam with an orange flame. True

Saint Joseph's Convent School, Moga

Answer key of Chemistry, Class-8,Chapter-6 (Chemical Reactions),

SHORT QUESTION ANSWER

Ans-1

   a)   Exothermic Reaction

   b)   Endothermic Reaction

   c)   Combination Reaction

   d)   Decomposition Reaction

   e)   Displacement Reaction

Ans-2   A reaction in which the positive and negative radicals of two reactants are exchanged, leading to the precipitation of a product, is called a double displacement reaction.

Ans-3   In neutralisation reaction, an acid reacts with a base leading to formation of salt

and water.

Ans-4   Water, Carbon Monoxide, Nitric Oxide

Ans-5

a)   Endothermic Reaction
b)   Exothermic Reaction

Ans-6   Our tongue feel cold when we put some glucose on it because dissolution of glucose in water (saliva) is an endothermic process. So heat gets absorbed and you feel cold in your mouth.

Ans-7
a)   Decomposition of lime stone once started will not continue on its own
b)   Rusting once started will continue on its own

Ans-8

a)   Lime water turns milky.

b)   Magnesium Oxide and Hydrogen is formed

c)   Hydrogen burns in oxygen to form water

d)   The brown colour of the solution changes to green, leading to formation of iron (II Sulphate)

Ans-9

a) $2Fe + 3Cl_2 \xrightarrow{heat} 2FeCl_3$

b) $CO_2 + H_2O \longrightarrow H_2CO_3$
(Carbonic acid)

c) $2Mg + O_2 \xrightarrow{burn} 2MgO$

d) $H_2 + Cl_2 \xrightarrow{Ignite} 2HCl$

e) $Fe + S \xrightarrow{heat} FeS$
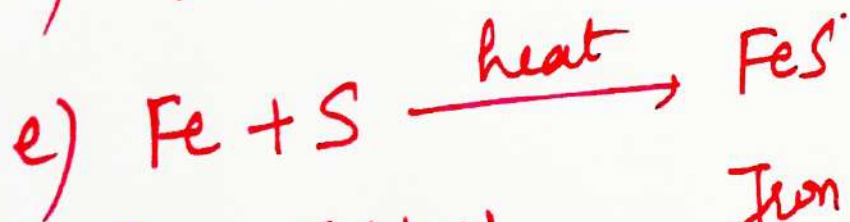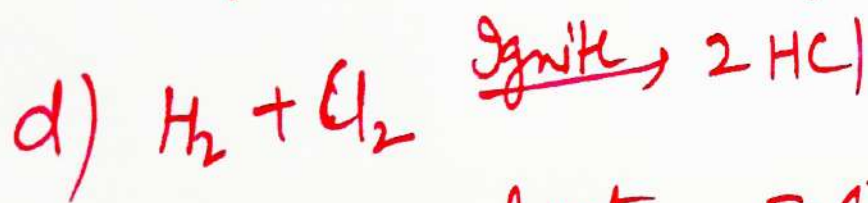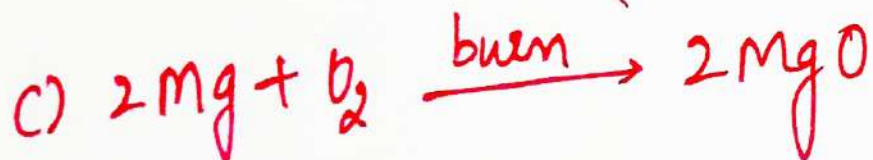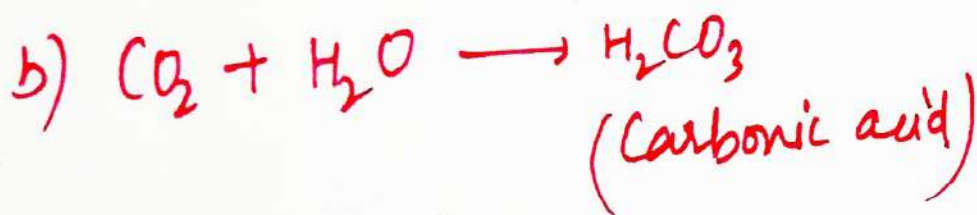
Iron   Sulphur'   Iron (II) Sulphide
(grey) (yellow)   (Greyish black)

Long Question Answers

Ans-1 Examples of exothermic reactions:

i)Burning:

$$CH_4 + 2O_2(g) \xrightarrow{\text{burn}} CO_2(g) + 2H_2O(g)$$
CNG
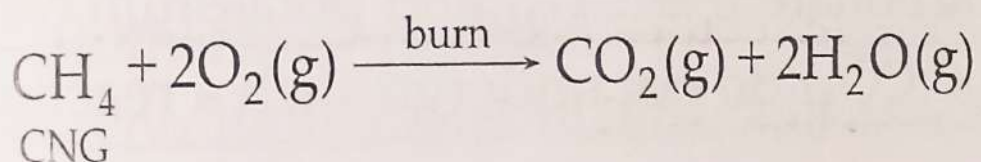
ii) The reaction between a basic and an acidic oxide

$$CaO(s) + CO_2(g) \longrightarrow CaCO_3(s)$$
calcium carbonate
(limestone)
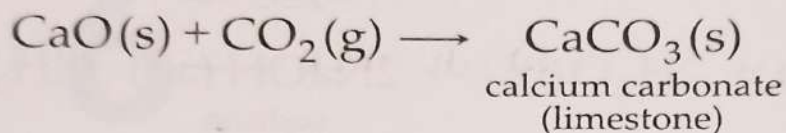
iii) Reaction of an acid with Metal

Carbonate

$$CaCO_3(s) + 2HCl(aq) \longrightarrow$$
$$CaCl_2(aq) + H_2O(l) + CO_2(g)$$
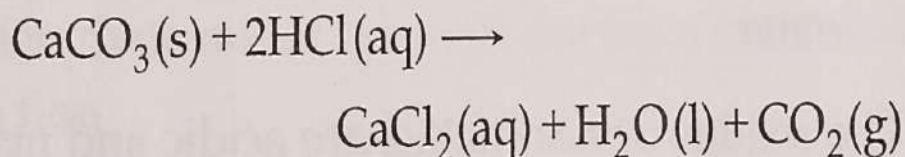
Examples of endothermic reactions:

1.Combination of Nitrogen with Oxygen

$$N_2(g) + O_2(g) \xrightarrow[\text{spark}]{\text{electric}} 2NO(g)$$
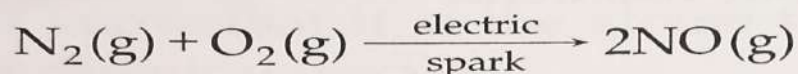
2.Thermal decomposition of Metal carbonates

$$MgCO_3(s) \xrightarrow{\text{heat}} MgO(s) + CO_2(g)$$

3.Photosynthesis

$$C_6H_{12}O_6(aq) + 6O_2(g) \longrightarrow 6CO_2(g) + 6H_2O(l)$$
glucose
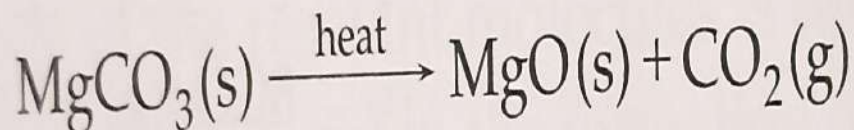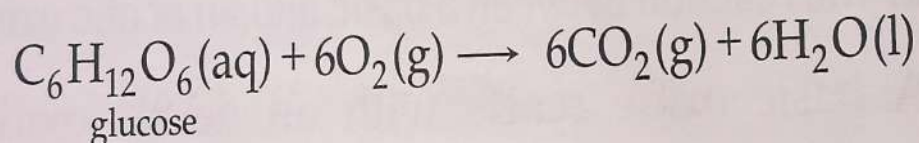
Ans-2

Two atoms in a molecule are held together by a force of attraction called a chemical bond.

1. For the breaking of bonds of the reactant molecules so as to set the atoms free for a new combination energy is absorbed.

2. For the forming of fresh bonds between the new partners so that it the product molecules are formed energy is given out.

When the energy given out in the formation of the bonds is more

than that used for the the breaking of the bonds is more than that it used for the the breaking of the bonds the surplus energy is evolved and the process is exothermic.

However when the energy required for the the breaking of the bonds is greater than that given out in the formation of of the bonds then the process will be endothermic.

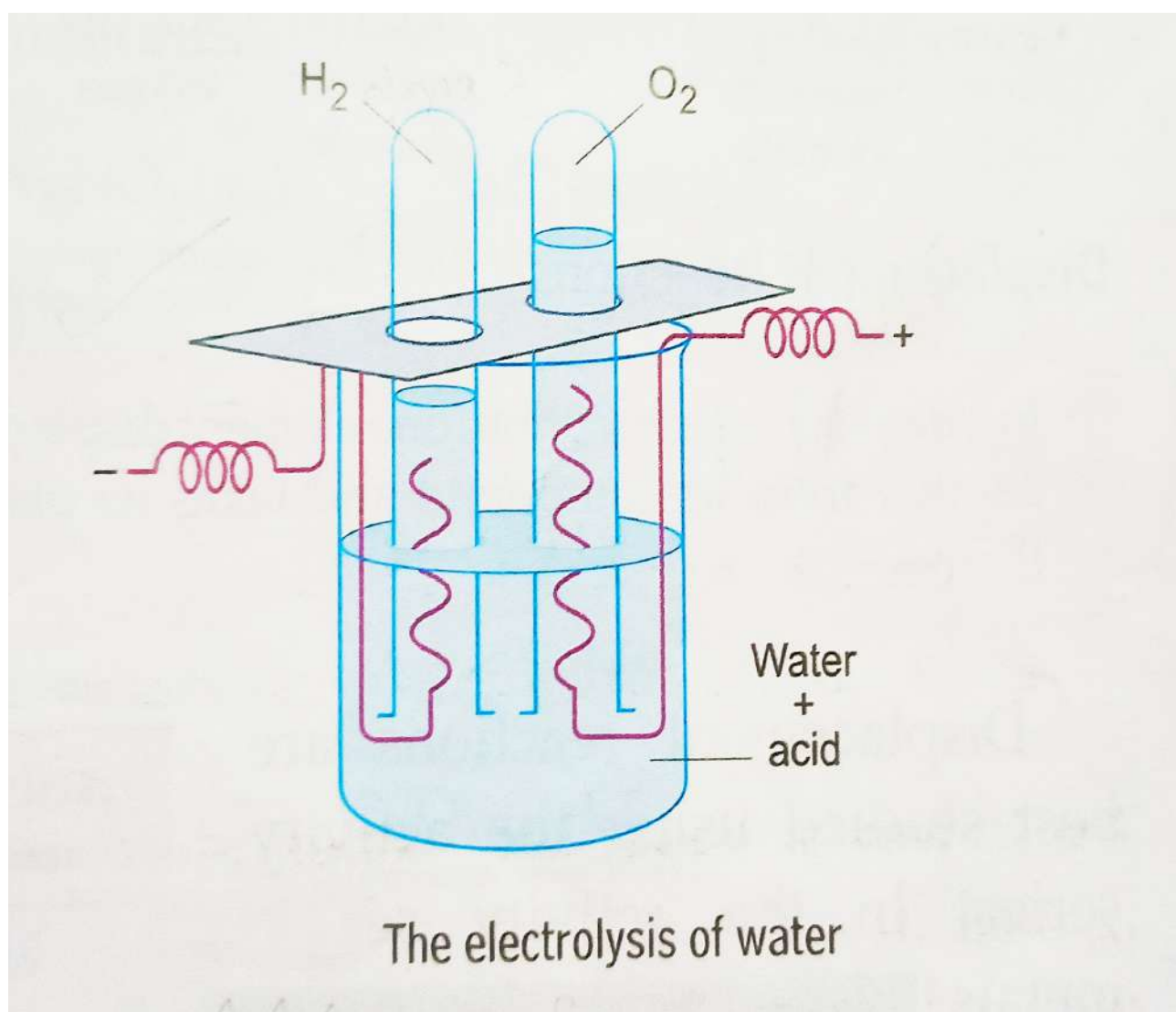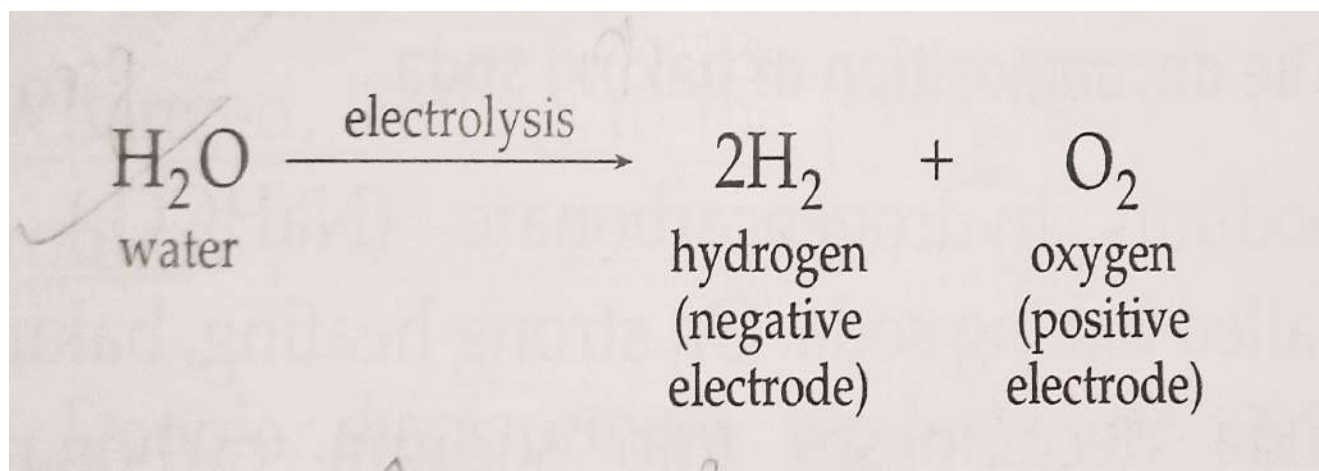Ans-3 Electrolysis is a process in which a substance is a decomposed or broken down into simpler substances, by passing an electric current through it .

Padi

Take some water, mixed with a few drops of dilute sulphuric acid, in a beaker. Invert two test tubes full of water into it. Remove the insulation from the ends of two thick wires. Introduce them into the test tubes as shown in Figure ´ . Connect the wires to a battery and pass current for some time. Gases start collecting in the test tubes. You will observe that the volume of the gas collected over the negative electrode is twice that of the gas collected over the positive electrode.

Stop passing current when there is enough gas in the test tubes. Cork the test tubes. Inside the water and take them out. The gas collected at the negative electrode is hydrogen and the gas collected at the electrode is Oxygen.
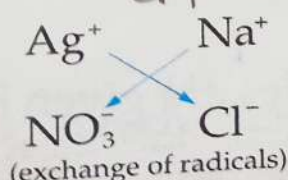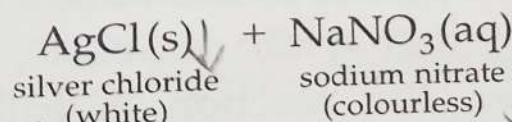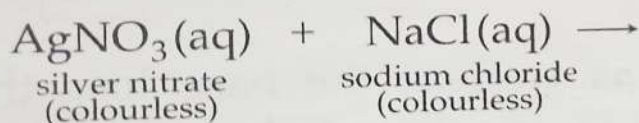
$$H_2O \xrightarrow{\text{electrolysis}} 2H_2 + O_2$$

water   hydrogen   oxygen
(negative   (positive
electrode)   electrode)

The electrolysis of water

Ans-4

Double Displacement Reactions

In a double displacement reaction, the positive and negative radicals of two reactants are exchanged, leading to the precipitation of a product.

The reaction between silver nitrate and sodium chloride

When an aqueous solution of silver nitrate is mixed with that of sodium chloride, a white precipitate of silver chloride is formed. The sodium nitrate formed remains in solution.
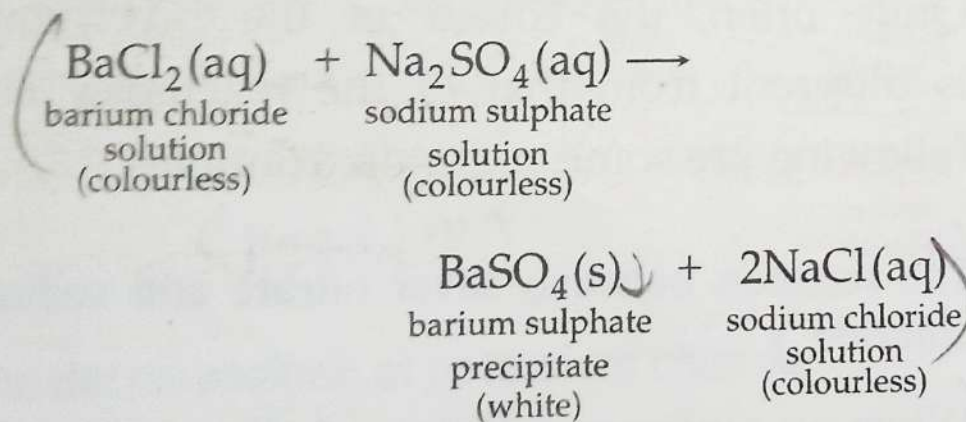
$$AgNO_3(aq) \ + \ NaCl(aq) \longrightarrow$$

silver nitrate
(colourless)

sodium chloride
(colourless)

$$AgCl(s)\downarrow \ + \ NaNO_3(aq)$$

silver chloride
(white)
(ppt.)

sodium nitrate
(colourless)

$$Ag^+ \qquad Na^+$$

$$NO_3^- \qquad Cl^-$$

(exchange of radicals)

The reaction between barium chloride and sodium sulphate

When a solution of barium chloride is mixed with that of sodium sulphate, a white precipitate of barium sulphate is formed along with a solution of sodium chloride.

The solution initially appears white but gradually becomes colourless as the precipitate settles down.

$$BaCl_2(aq) + Na_2SO_4(aq) \longrightarrow$$

barium chloride solution (colourless)   sodium sulphate solution (colourless)

$$BaSO_4(s) + 2NaCl(aq)$$

barium sulphate precipitate (white)   sodium chloride solution (colourless)

Ans-5

In a neutralisation reaction, an acid reacts with a base, forming a salt and water. A 5o (hong)

Activity Take about 5 mL of dilute sodium hydroxide in a conical flask and dilute it with a test tube of water. Swirl the flask to ensure thorough mixing. Add a drop of phenolphthalein solution to it. The contents of the flask turn pink. (Phenolphthalein is an indicator which turns red in a basic solution and colourless in a neutral or acidic solution.) Add dilute hydrochloric acid dropwise with the help of a long dropper and swirl the contents after each addition. Add the acid till the pink colour just vanishes. The solution in the flask is neutral—neither acidic nor basic—and the reaction is neutralisation.

Dilute HCl

Dilute NaOH
+
phenolphthalein

Neutral solution
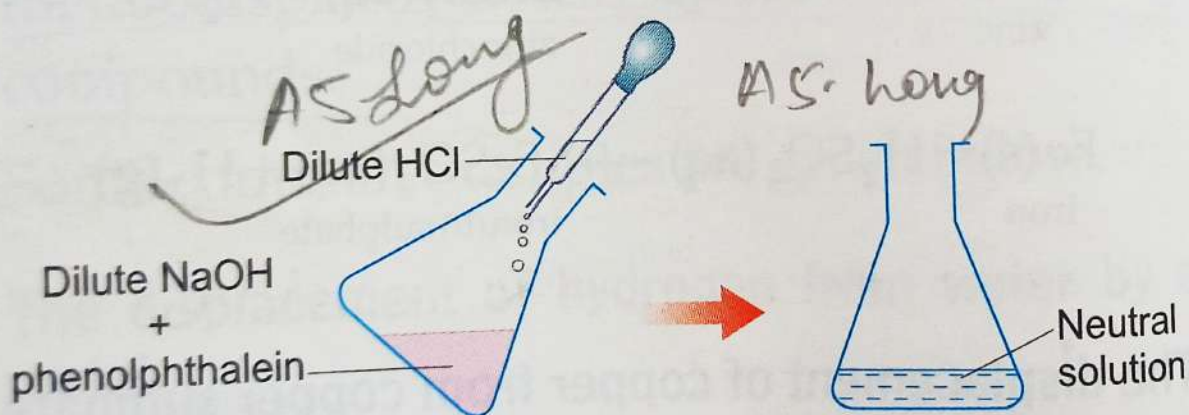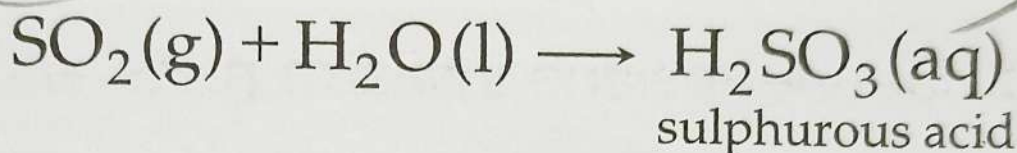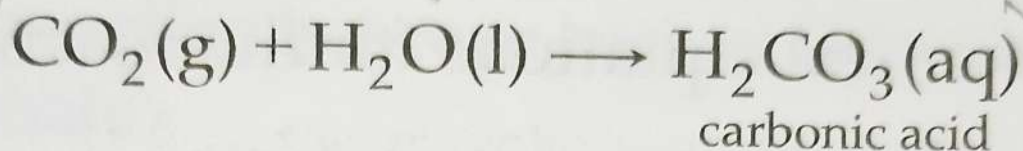
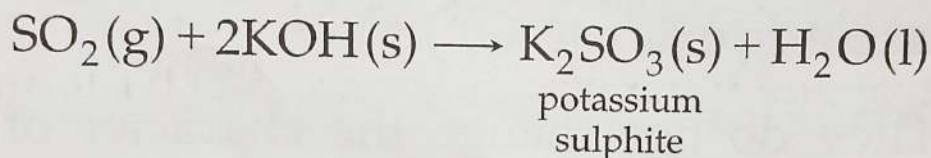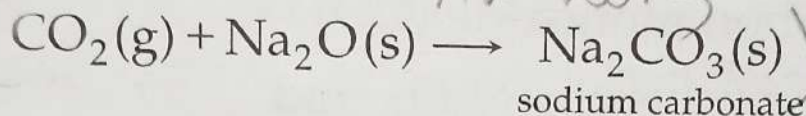**Fig. 6.9** Neutralisation

Ans-6

Acidic oxides

A6. Long.

The oxides of nonmetals, in general, are acidic.

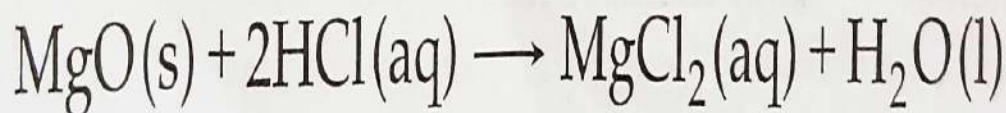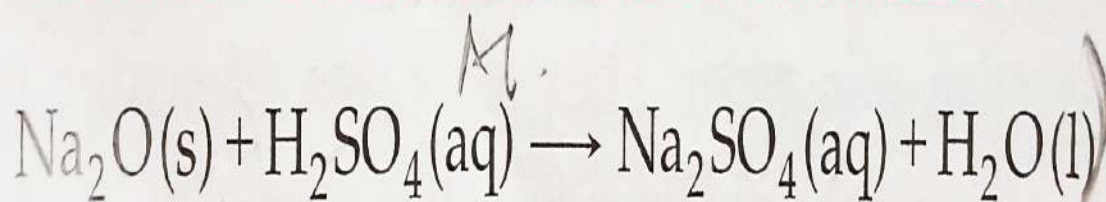**Reaction with water** They dissolve in water to form acids, which neutralise bases to form salts and water.

$$CO_2(g) + H_2O(l) \longrightarrow H_2CO_3(aq)$$
$$\text{carbonic acid}$$

$$SO_2(g) + H_2O(l) \longrightarrow H_2SO_3(aq)$$
$$\text{sulphurous acid}$$

Reaction with bases They directly react with bases to form salts.

A6. Long

$$CO_2(g) + Na_2O(s) \longrightarrow Na_2CO_3(s)$$
$$\text{sodium carbonate}$$

$$SO_2(g) + 2KOH(s) \longrightarrow K_2SO_3(s) + H_2O(l)$$
$$\text{potassium sulphite}$$

Basic oxides

The oxides of metals are generally basic and react with acids to form salts and water. They also react with acidic oxides to form salts.
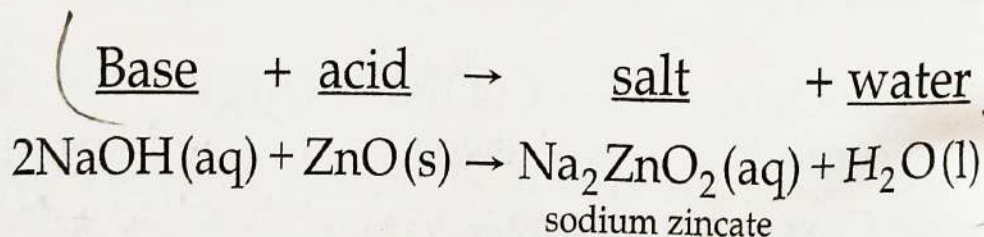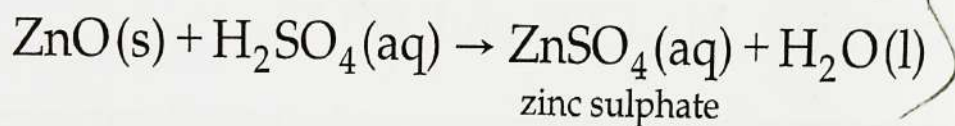
$$Na_2O\,(s) + H_2SO_4\,(aq) \longrightarrow Na_2SO_4\,(aq) + H_2O\,(l)$$

$$MgO\,(s) + 2HCl\,(aq) \longrightarrow MgCl_2\,(aq) + H_2O\,(l)$$

Ans-7

Amphoteric oxides A 7°

An amphoteric oxide is one which behaves like a base in the presence of an acid and like an acid in the presence of a base.

These are metal oxides like Al_2O_3, ZnO and PbO.

An amphoteric oxide reacts with an acid as well as with a base, forming a salt and water.

Base + acid → salt + water

$$ZnO(s) + H_2SO_4(aq) \rightarrow ZnSO_4(aq) + H_2O(l)$$
                                   zinc sulphate

Base + acid → salt + water

$$2NaOH(aq) + ZnO(s) \rightarrow Na_2ZnO_2(aq) + H_2O(l)$$
                                   sodium zincate

4. Discuss double displacement reactions with two examples.
5. Discuss neutralisation reactions with an activity to show how such a reaction is carried out.
6. What are acidic and basic oxides? Give examples with reactions.
7. Write a note on amphoteric oxides.

Objective Questions

Choose the correct option.

1. In which of the following reactions will heat be evolved?
   (a) The formation of NO in lightning
   (b) The formation of HI from hydrogen and iodine
   (c) The decomposition of limestone
   ✓(d) The slaking of lime

2. In which of the following reactions will light be absorbed?
   ✓(a) Photosynthesis
   (b) Respiration
   (c) The burning of sulphur
   (d) The burning of magnesium

3. Which of the following equations represents a displacement reaction?
   (a) $2H_2 + O_2 \rightarrow 2H_2O$
   (b) $N_2 + 3H_2 \rightarrow 2NH_3$
   (c) $2H_2O \rightarrow 2H_2 + O_2$
   ✓(d) $Mg + H_2O \rightarrow MgO + H_2$

4. Which of the following equations represents a double decomposition reaction?
   (a) $H_2 + Cl_2 \rightarrow 2HCl$
   (b) $2NaNO_3 \rightarrow 2NaNO_2 + O_2$
   ✓(c) $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$
   (d) $2H_2 + O_2 \rightarrow 2H_2O$

Match columns A and B.

A	B
(i) N_2O	3 (a) Anhydride of sulphurous acid
(ii) N_2O_5	4 (b) Anhydride of sulphuric acid
(iii) SO_2	1 (c) A neutral oxide
(iv) SO_3	2 (d) Anhydride of nitric acid

Fill in the blanks.

1. When ignited in air, magnesium burns with a dazzling ...... flame. (white/yellow) ✓
2. A ...... of iron and sulphur contains grey and yellow particles. (mixture/compound) ✓
3. Iron(II) sulphide shows only one kind of particles that are ...... in colour. (grey-black/yellow)
4. The volume ratio of the hydrogen and oxygen obtained from water is .... (1 : 2/2 : 1)
5. On being heated, baking soda undergoes ...... to give sodium carbonate, water vapour and carbon dioxide. (decomposition/double decomposition) ✓

Essential ICSE Chemistry for Class 8

6. A ...... precipitate is formed when an aqueous solution of silver nitrate is mixed with that of sodium chloride. (white/red) ✓
7. Phenolphthalein gives a ...... colour in an alkali. (yellow/red) ✓
8. A soluble basic oxide turns a moistened ..(1).. litmus paper ..(2).. . (blue/red)

Write 'T' for true and 'F' for false for the following statements.

1. Coal gives heat when burnt. *True*
2. Rusting is an <u>endo</u>thermic process. *False . [exo]*
3. On being strongly heated, potassium chlorate gives potassium chloride and oxygen. *True*
4. The electrolysis of water involves a <u>combination</u> reaction. *False . [decomposition]*
5. An exchange of radicals between two reactants takes place in a double decomposition reaction. *True*
6. Limewater can be neutralised by an acid. *True*
7. Neutralisation is an <u>endo</u>thermic process. *False . [exo]*

CHAPTER 5. Endocrine System

Check Point 1

1. Pituitary gland
2. Endocrine glands
3. Adrenaline
4. Corticoid (=Cortical) hormones

Check Point 2

1. True 2. True 3. False 4. False 5. True

TEST YOURSELF

A. 1. endocrine system/hormones 2. chemical 3. endocrine glands
   4. Islets of Langerhans 5. pituitary 6. thyroid

B. 1. Hormones **2.** Cretinism **3.** Pituitary gland **4.** Adrenaline
  5. Adolescence **6.** Estrogen

C. 1. Glands without ducts that pour their secretion directly into the blood are called endocrine glands.

  2. Hormones are also called chemical messenger because they bring about chemical coordination by circulating throughout the body and influencing the functioning of their target organs.

  3. The hormones which control the activities of other endocrine glands are called tropic hormones. They are secreted by pituitary gland.

  4. Stress is a state of mental or emotional strain and is the feeling of being under pressure. It causes the release of certain hormones which make heart to beat faster, breathe faster and provide burst of energy to react.

  5. Puberty is the period during adolescence when a boy or girl becomes sexually mature and capable of reproduction.

  6. Adolescence is the period of growth and physical differentiation in boys and girls. It begins around the age of 11–12 years and lasts up to 18–19 years of age.

D. 1. The glands which pour their secretions directly into the blood are called **endocrine glands,** whereas the glands which pour their secretions into some cavity through their ducts are called **exocrine glands.**

  2. Hyposecretion of thyroxine in childhood causes cretinism and in adults, causes myxoedema and simple goitre. On the other hand, **hypersecretion of thyroxine** causes increased metabolism, faster heartbeat, increased pulse rate, restlessness, nervousness and bulging eyes.

  3. The coordination of the functioning of body organs by means of hormones secreted by endocrine glands is called **chemical coordination.** On the other hand, coordination by means of nerve impulses is called **neural coordination.**

E. 1. False; Pituitary gland is called master gland of the body because it **controls functioning of all other endocrine glands of the body.**

  2. False; Hormone thyroxine is secreted by **thyroid** gland.

  3. True

  4. True

  5. True

  6. False; Emotional stability is attained during **adulthood.**

F. 1. Thyroxine
2. Insulin and Glucagon
3. Corticoids
4. Oxytocin, vasopressin

G. 1. (a) Glucagon (b) Adrenaline (c) Vasopressin (ADH)
     (d) Oxytocin

2. Adrenal glands are located on the top of kidneys like a cap.

3. The hypoactivity of thyroid gland during childhood leads to cretinism, whereas in adults, it leads to myxoedema and goitre.

4. (a) Hyposecretion of Growth hormone
   (b) Hyposecretion of Vasopressin
   (c) Hyposecretion of Thyroxine
   (d) Hypersecretion of Corticoids

5. Pituitary gland is called the master gland because its hormones regulate the functioning of all the other endocrine glands of the body.

6. The external features in which boys and girls differ from each other are called secondary sexual characters. For example, presence of beard and moustaches in boys, breasts in girls, etc. Secondary sexual characters appear during adolescence by the activity of sex hormones.

7.

	Gland	Hormone	Effect
1.	Pancreas	Insulin	Lowers glucose level in blood
2.	Thyroid	Thyroxine	On general metabolism
3.	Pituitary	Growth hormone	Essential for normal growth
4.	Pancreas	Glucagon	Conversion of glycogen into glucose

H. 1. –(c) 2.–(e) 3.–(d) 4.–(a) 5.–(b)
I. 1. (a) 2. (b) 3. (c) 4. (b) 5. (a) 6. (c) 7. (c) 8. (a)

THINK ZONE
• During adolescence, the voice box in boys grows and protrudes out. This develops hoarse voice in boys.
• Adolescents are called teenagers because adolescent period covers the teens, i.e., 13 to 18 or 19 years of age.

CHAPTER 7. Nervous System

Check Point

1. True 2. False 3. True 4. False 5. True 6. False

TEST YOURSELF

A. 1. nervous, endocrine 2. cerebrum 3. neuron 4. skin
B. 1. Medulla oblongata 2. Gray matter 3. Sensory fibres
   4. Reflex action 5. Cerebral hemispheres 6. Cranial nerves
   7. Cerebellum 8. Mixed nerve 9. Medulla oblongata 10. Axon
C. 1. Stimulus is any change in the environment of an organism that evokes a response in the body.
   2. Receptors are nerve cells or sensory cells that are stimulated by changes in the surroundings and generate sensory nerve impulse.
   3. Neuron is the structural and functional unit of nervous system.
   4. Synapse is a point of contact between terminal branches of axon and dendrites of adjacent neuron.

5. Myelin sheath is a spirally-coiled insulating sheath of fatty substance formed by the Schwann cells around the axon.

6. A sudden and quick response to a stimulus without thinking is called reflex action.

D. 1.

Cerebrum	Cerebellum
1. It is the largest and the most highly developed part of the brain.	1. It is much smaller than cerebrum and is called little brain.
2. It is the seat of intelligence, memory, thinking, learning, instincts, feelings, etc.	2. It coordinates voluntary movements and balance of the body during walking, swimming, jumping, etc.

2.

Gray matter	White matter
1. Gray matter is grayish in colour.	1. White matter is glistening white in colour.
2. Gray matter forms the outer layer of brain and is centrally located in H-shaped region in spinal cord.	2. White matter forms the inner layer of brain and the peripheral layer in spinal cord.
3. Gray matter is mainly formed of cell bodies of neurons.	3. White matter is formed of axons which join to form nerves.

3.

Sensory nerve	Motor nerve
1. Sensory nerves are formed of sensory nerve fibres.	1. Motor nerves are formed of motor nerve fibres.
2. Sensory nerve brings sensory impulses or stimuli from sense organs or receptors to the brain and spinal cord.	2. Motor nerves carry impulses from brain and spinal cord to the effector organ.

3.

on book
(P-92
Table 7.2)

Voluntary action	Reflex action
Voluntary action is a response to a stimulus under the control of cerebrum.	Reflex action is a sudden and quick response to a stimulus without thinking.

E. 1. Following are the three functions of brain:

any
2-2 points

(a) Brain controls reasoning, thinking, learning, memorising, breathing, etc.

(b) It is responsible for sensory perception of sight, hearing, taste, smell, pain, pressure, etc.

(c) It coordinates the voluntary movements of the body.

2. Nerves are the bundles of nerve fibres wrapped in a sheath of connective tissue. They conduct nerve impulses from sense organs to brain and spinal cord, and from brain and spinal cord to effector organs.

3. There types of nerves based on impulses they conduct are:
   (a) **Sensory nerves:** They conduct impulses from sense organs to brain or spinal cord.
   (b) **Motor nerves:** They conduct impulses from brain or spinal cord to effector organs like muscles or glands.
   (c) **Mixed nerves:** They conduct sensory as well as motor impulses.

4. Reflex arc consists of
   (a) Receptors
   (b) Sensory nerve fibres
   (c) Interneurons
   (d) Motor nerve fibres
   (e) Effector organ

5. Cerebrum controls reasoning, thinking, learning, memory, etc. It is also responsible for sensory perceptions such as hearing, sight, taste, smell, pain, touch, etc.

6. Reflex action is an automatic response to any stimulus without thinking. For example, when our finger touches a hot object, we withdraw our finger (hand) immediately.
   The path of impulse during reflex action is as follows:

   Stimulus → Receptor or Sense organ → Sensory neurons → Interneurons → Motor neurons → Effector organ

F. 1. –(b) 2.–(a) 3.–(d) 4.–(e) 5.–(c)

G. 1. False; Cranial nerves are **12** pairs of nerves in human beings.
   2. False; All voluntary actions are controlled by **the brain.**
   3. True
   4. False; Spinal cord is part of **central** nervous system.
   5. False; Gray matter is formed of **cyton** or **cell bodies** of nerve cells.
   6. False; Response to a stimulus is reflected by an **effector.**

H. 1. Receptor; It refers to a sensory neuron or a sense organ, others are parts of a neuron.
   2. Axon; It is a part of neuron, others are parts of brain.
   3. Breathing; It is an involuntary action, others are reflex actions.

I. 1. Medulla oblongata regulates breathing movements. So, injury to medulla leads to immediate death.

2. As a result of reflex action, the hand moves away to avoid the pinch.

3. Salivation on seeing tasty food is a reflex action in which we respond unconsciously. Here, food is the stimulus which evokes the reflex, i.e., salivation. Therefore, we salivate on seeing tasty food.

J. 1. (c) 2. (d) 3. (b) 4. (b) 5. (a) 6. (a) 7. (a)

THINK ZONE

● A drunk person walks clumsily because of the effect of alcohol. Due to alcohol, cerebellum is unable to coordinate the movements of voluntary muscles. This leads to uncoordinated movements and produces jittery gait. (walk)

● Hanging causes injury to medulla which regulates breathing movements and beating of heart. As a result, the involuntary actions of breathing and heartbeat are stopped causing instantaneous death.
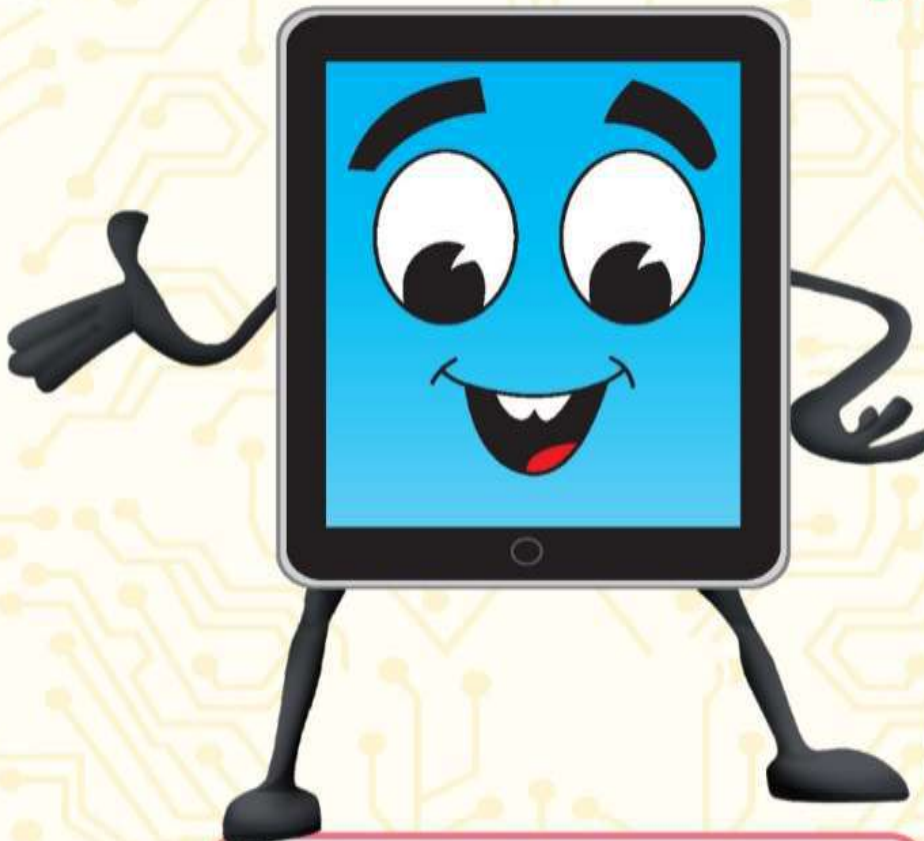
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8 » App Development

Exercises

A. Tick [✓] the correct answer.

1. b.   2. c.   3. b.
4. a.   5. c.   6. b.

B. Write 'T' for True and 'F' for False statements.

1. T   2. F   3. T
4. T   5. F   6. T

C. Fill in the blanks.

1. Mobile web app   2. Social Networking   3. Recent
4. Unknown Sources   5. Viewer   6. Test

D. Write the uses of the following.

1. Business Apps: Business apps are also knwon as productivity apps. These apps are capable of performing many complex tasks on the run are developed to help us be more productive. For example, Google Calendars, Translators, To-do-list

2. Travel Apps: Travel apps are used to make our traveling easier, more comfortable, fun and informative. We can book our flights, hotels, trains, taxis, in fact all modes of transport with the use of a Travel App. These apps also help us find unknown locations.

3. Communication Apps: Communication apps enable us to impart or interchange thoughts, opinions, or information by speech, writing, or signs. For example: WhatsApp and Skype.

4. Educational Apps: Educational apps are making things easier for children to understand and make children more interactive. These apps are useful for teachers as well—organizing a teaching process, better educating themselves, etc.

E. Differentiate between the following.

1. Android: It is an operating system for mobile computing devices developed by Google. It is widely used on smartphones and tablet computers.

iOS: It is an operating system developed and supported by Apple and is used only on their own iPhones and iPads.

2. Native App: These are developed for a particular platform or device. Apps built for systems like iOS, Android, Windows phone, Blackberry cannot be used on a platform other than their own. These apps have access to various devices of a phone, such as its camera, microphone, compass and address book.

Web App: These are actually websites that provide a user with experience similar to native apps. Web apps are not deployed to an app store; rather, they are deployed to a web server and users access them in a web browser from any device, whenever there is an Internet connection.

F. Answer in 1-2 sentences.

1. An app, sometimes called application software, consists of programs designed to make users more productive and/or assist them with personal tasks. It can run on our mobile phone, computer, Internet or any other electronic device.

2. Apps are divided into the following three main types.

   i. Native App   ii. Web App   iii. Hybrid App

3. Main parts of Blocks Editor are: Built-in Blocks, Components Blocks, Block Viewer, Trash and Bagpack.

4. Apple's App Store is a popular app store which contain many app categories as well as subcategories for different purposes.

G. Answer Briefly.

1. Hybrid apps are the combination of both native and web app elements. These apps are cross-platform, meaning the same code can run on many mobile platforms. This approach often saves development time and costs, but may not provide a consistent user experience or fast performance on all devices.

2. Web Apps are actually websites that provide a user with experience similar to native apps. Web apps are not deployed to an app store; rather, they are deployed to a web server and users access them in a web browser from any device, whenever there is an Internet connection.

3. Blocks Editor is used to instruct the components what to do and when to do it.

   Main parts of Blocks Editor are: Built-in Blocks, Components Blocks, Block Viewer, Trash and Bagpack.

4. App Inventor is an open-source web application originally provided by Google, and now maintained by the Massachusetts Institute of Technology (MIT). It lets us develop apps or applications for Android phones using a web browser. It is very easy and user friendly.

H. Application Based Question.

Saanvi should run the app on a connected Android device or emulator.

9 » Python - Introduction

Exercises

A. Tick [✓] the correct answer.

1. a.
2. c.
3. c.
4. a.
5. b.

B. Write 'T' for True and 'F' for False statements.

1. T
2. T
3. F
4. T
5. F

C. Fill in the blanks.

1. Interactive
2. Identation
3. Keywords
4. Literals
5. Sequence

D. Define the following.

1. Programming Language: A programming language is a set of words, symbols and codes that are used to write a computer program.

2. Character Set: Character set is a set of valid characters that a language can recognize.

3. Token: A token is the smallest element of a program that is meaningful to the interpreter.

4. Operator: Operators are the special symbols that carry out arithmetic and logical computations.

5. Interpreter: Interpreter is a language processer which executes the code line by line at a time.

E. Differentiate between the following.

1. Interactive mode: This mode is best for small programs and for the beginners. But we can't save the commands in it for future use.

   Script mode: It is used as python shell for saving a program, you need to open and write.

2. Relational Operators: These operators are used to compare the values, also known as comparison operator.

   Assignment Operators: These operators are used to assign value to the variables.

3. Simple Statement: A simple statement lies entirely within a logical line. Python recommends one statement per line and makes programs more readable.

   Compound Statement: A compound statement contains one or more statements and controls their execution. A compound statement has one or more clauses, aligned at the same indentation.

4. Syntax Errors: Syntax error will occur when these rules and regulations of computer language are violated.

   Logical Errors: These errors are also known as semantic errors. They cause the program to behave incorrectly, but they do not usually crash the program.

F. **Answer in 1-2 sentences.**

1. Python was founded by Guido Van Rossum in early 1990's.

2. Data types are used to define the type of value a data can contain. Data values in Python are known as objects

3. Input function is built in function used for defining standard input operations in python.

   Syntax: input ([prompt])

4. Print function is built in function used for defining standard output operations in python.

   Syntax: print (expression/constant/variable)

G. **Answer Briefly.**

1. The features of Python are:

   i. Python is easy to use and learn.

   ii. Python is an open source language and available free.

   iii. Python can run equally on different platforms such as Windows, Linux, Unix and Macintosh etc. So it is a portable language.

   iv. Python can be used for Graphical User Interface (GUI) Programming.

2. Operator precedence determines the order in which expressions are evaluated, so you can predict the outcome of an expression. It can also determine the overall value of the expression. For example, take the following expression: a = 8 + 6/2. Depending on whether the 8 + 6 expression or the 6/2 expression is evaluated first, the value can end up being 7 or 11. Python follows operator precedence rules for

solving the expression

3. Python has built-in data types such as numbers, strings, tuples, lists, dictionaries, and sets. You can also create user-defined types, known as classes.

   Data Types are of two types:

   Numbers: The built-in numeric types in Python include integers numbers, floating-point numbers, and complex numbers.

   Sequence: A sequence is an ordered collection of items, indexed by positive integers. Three types of sequence data type available in Python are Strings, Lists & Tuples.

4. Variables are used to store data in the memory. The data can be numbers, text, and objects. The data is given a name, so that it can be re-called whenever it is needed. Python program needs that data stored in the memory to do its job.

   For example, to create a variable named rose, we use an equal to sign (=) and then tell Python what information the variable should be the label for.

   ```
   >>> rose = 100
   ```

5. Syntax Errors: Syntax error will occur when these rules and regulations of computer language are violated.

   Logical Errors: These errors are also known as semantic errors. They cause the program to behave incorrectly, but they do not usually crash the program.

H. Application Based Question.

To convert the string into a number Riya should use int () float () function.

Exercises

A. Tick [✓] the correct answer.

1. a.
2. c.
3. b.
4. b.
5. a.
6. b.

B. Write 'T' for True and 'F' for False statements.

1. T
2. F
3. T
4. T
5. F

C. Fill in the blanks.

1. Curly braces
2. Multipath
3. Nesting
4. Iterates
5. While
6. Continue

D. Define the following.

1. Conditional Branching: When the branching is based on a particular condition, it is known as conditional branching.

2. Unconditional Branching: If branching takes place without any decision, it is known as unconditional branching.

E. Differentiate between the following.

1. For Loop: The for loop is used to repeat a block of statements until there is no items in Object (String, List, Tuple or any other object) in Python.

   Syntax: for variable in Object:

   While Loop: The while Loop in python is used to repeat a block of statements for given number of times, until the given condition is False.

   Syntax: while test_expression:

2. Break Statement: Break can be used to unconditionally jump out of the loop. It terminates the execution of the loop. Syntax: break

   Continue statement: It is used to tell Python to skip the rest of the statements of the current loop block and to move to next iteration of the loop. Syntax: continue

F. **Answer in 1-2 sentences.**

1. Control structures are used to control or change the flow of execution of the program.

2. When a program breaks the sequential flow and jumps to another part of the code, it is called branching.

3. When multipath decisions are involved, we can put ifs together. A multipath decision is a chain of ifs in which the statement associated with each else is an if or elif.

4. Loops cause a section of your program to be repeated a certain number of times. Python provides two types of looping constructs- For loop and While loop.

G. **Answer Briefly.**

1. The if...else statement is an extension of the simple if statement. The if..else statement evaluates test expression and will execute body of if only when test condition is True. If the condition is False, body of else is executed. Indentation is used to separate the blocks.

    Syntax:

    ```
    if test expression:
        Body of if
    else:
        Body of else
    ```

2. The while Loop in python is used to repeat a block of statements for given number of times, until the given condition is False.

    Syntax: while test_expression:

3. Nesting is the process of placing the if or if-else or elif statement in another statement. It enables us to make complex decisions based on different inputs. Nested-if statement uses nesting.

    Syntax:

    ```
    if condition:
        if condition:
            statements
        else:
            statements
    else:
        statements
    ```

4. The for loop is used to repeat a block of statements until there is no items in Object (String, List, Tuple or any other object) in Python.

   Syntax: for variable in Object:

H. Application Based Question.

Break statement should be used to jump out of the loop unconditionally in a program.