Key to
Navjeevan Term Book - III

Standard
7

Teacher's Copy

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CONTENT

English Balbharati

Unit - III

Topic 3.1 : Tartary

English Workshop :

Q.1. **(1)** beaten gold **(2)** flaunt **(3)** athwart **(4)** slant

Q.2. **(1)** trumpet, harp, flute, mandoline

(2) zebras, tigers, peacocks

Q.3. They are **(a)** glen **(b)** vale **(c)** dale

Q.4. **(a)** Yellow as honey **(b)** red as wine **(c)** her trembling lake like foamless seas **(d)** clustered thick as seeds

Q.5. **(1)** **Colour : (i)** Yellow as honey, red as wine,

(ii) White, and gold, and green they'd be -

(iii) Her rivers silver-pale!

(iv) In every purple vale!

(2) **Sound : (i)** Trumpeters every day

To every meal would summon me,

And in my courtyard bray;

(ii) While harp, and flute, and mandoline,

Made music sweet and gay.

(3) **Images from nature :**

(i) And ere would wane the morning-star,

(ii) Her flashing stars, her scented breeze,

(iii) Her trembling lake like foamless seas,

Q.6.
- Sweet and gay music
- Silver pale rivers
- Scented breeze
- Trembling lake
- Bird-delighting citron trees

Q.7. **The daily routine of the Lord of Tartary :** The Lord of Tartary slept in a bed of ivory and had peacocks in his court, tigers in his forests and fishes in his pools. Every day, trumpeters summoned him to his meals. Every evening yellow and red lamps were lit and the harp, flute and mandoline played sweet music. The Lord of Tartary dressed in a robe of white gold and green beads with his scimitar passed through the dark glades of Tartary drawn by seven zebras. The Lord of Tartary passed through the thicket, wood and dale, looking at the stars and enjoying the breeze. This was the Lord's daily routine.

Q.8. We visited a remote village in Kashmir, situated far from the bustling city. Though this was a remote village, it was so lovely and so different from our towns and cities. There we saw mountains in the background covered with snow that was slowly melting and moving in the downward direction. The land was flat and covered with green grass that looked like a smooth carpet. There were several peaceful and calm lakes scattered around the village, formed by the melting snow. These lakes had pure glistening water free from bacteria. The flora and fauna were simply breathtaking. There were fir trees and lovely Christmas trees all lovely and green. Birds like the dove and swan were moving about in the greenery and in the water. In the evening before the sun could set, it gave off an amber tinge to the sky. The sky took on a lovely colour of red, gold and orange that was breathtaking. We met the local people sitting around a hand made fire.

They were very colourfully dressed with short skirts and heavy jewellery. They wore earrings and nose rings, heavy bracelets of beads and anklets of beads and colourful thread.

It was simply breathtaking, visiting this lovely remote village in Kashmir.

Q.9. **(a)** And in my court should peacocks flaunt, and in my forests tigers haunt.

(b) And in the evenings lamps would shine, yellow as honey, red as wine

Q.10. Yes, the picture has a dreamy quality. The boy is a musician who is conducting the orchestra made up of a fish, musical instruments, animals, birds, fruits and a carriage. All the above mentioned characters will be giving out different sounds. But this is not in reality. It is only a dream.

Comprehension :

Extract - 1

Q.1. Peacocks in the court, tigers in the forests and great fishes in the pool.

Q.2. **(1)** The harp, the flute and the mandoline made sweet and gay music in the Lord's palace and ground.

(2) The evening lamps are as yellow as honey and as red as wine.

(3) The Lord's bed would be made of ivory and the throne would be of beaten gold.

Q.3. **(1)** The rhyme scheme is a, b, a, b.

(2) **(a)** Simile

(b) Onomatopoeia

Extract - 2

Q.1. **(1)** bird-delighting **(2)** foamless

(3) trembling **(4)** scented

Q.2. **(1)** The Lord of Tartary was the Lord of the fruits of the rivers, the hills, the glen, the thicket, wood and dale. He was Lord of the flashing stars, scented breeze, trembling lake, foamless seas and bird-delighting citron trees.

(2) The Lord of Tartary wore a robe of beads which were white gold and green in colour. These beads were clustered close to each other and looked like seeds.

Q.3. **(1)** The rhyme scheme is a, b, a, b, c, c, c, b.

(2) **(a)** Simile

(b) Simile

(c) Personification

Topic 3.2 : Compere a Programme

English Workshop :

Q.1.

	Balanand Vidyalaya Art Festival Programme
(6)	Koli Dance
(2)	Igniting the Lamp
(9)	Chief Guest Speaks
(4)	Appraisal of the Art Festival
(1)	Dignitaries Arrive
(5)	Recital of 'Taal kacheri'
(3)	Welcome and Introduction of Guests
(8)	Prize Distribution
(7)	The Boy Comes Home - A skit by Std IX
(10)	Vote of Thanks

Q.2. **(1)** Before we **draw the curtain**, let us stand in attention for the National Anthem.

(2) I **had butterflies in my stomach** just as I was to receive my Report Card.

(3) After I took the medicine, I **was relieved of** the pain.

(4) Before we do the experiment in the laboratory, let me **appraise** you all about it.

(5) The minister **was escorted by** his personal bodyguards.

(6) Sorrowful times are **likened to** darkness.

Q.3.

You are cordially invited to the Art festival to be held at the Antonio D'souza High School, Byculla on the 20th of November 2017, at 11.00 a.m.. The Honourable Chief Guest of this esteemed festival will be Shri Cletus Athaide a well-known and much-renowned artist. We look forward to your attendance.

Q.4. A Fantastic Art Festival at Balanand Vidyalaya 23rd August, 2017.

The inauguration of the Balanand Vidyalaya School Art festival was held on 23rd August.

The Head Girl Miss Shubhada Murarka escorted the dignitaries to the dais. The Honourable Chief Guest was Shri Charudatta Diwan, president of Balanand Education Society.

The traditional lamp was lit and prayers were offered. Miss Anagha Bhatia of Std.VII and her group sang the school song. The Chief Guest Shri Charudatta Diwan was welcomed by the principal with the gift of two volumes of cherished lives of Great Artists. Next the Art teacher Ms. Shilpa Sanghani welcomed the beacon of the institution, Mr. Avadhoot Pathak. The Principal Dr. Ajinkya Parakhi delivered the introductory speech.

This was followed by the 'Taal Kacheri' presented by Varsha on the Mridangam, Vivek on Dholak, Zubin on Tabla and Govind on Ghatam.

This was followed by the 'Koli Dance'. Next came a light comedy by Std. IX C. The play was 'The Boy comes Home.'

After these fantastic performances, there was the Prize distribution ceremony. The Chief Guest then addressed the audience and the programme came to an end after the vote of thanks by Ms. Shilpa Sanghavi. This art festival was really an unforgettable event.

Q.5. (1) Teacher's Day programme in your school.

(a) Arrival of the teachers in the hall.

(b) Speech by the Head Girl followed by speech and felicitation of the Principal.

(c) Felicitation of deserving teachers.

(d) Cultural programmes such as :

(i) group dance, **(ii)** songs, **(iii)** skits, **(iv)** miming

(e) Vote of thanks.

(2) An exhibition of science projects arranged in your classroom.

(a) All articles carefully arranged.

(b) Principal and head teacher invited and welcomed.

(c) The head girl shows the dignitaries round the exhibition and explains the projects.

(d) The speech given by the Chief Guests. (Principal, Head teacher)

(e) Vote of thanks.

(3) A wedding anniversary/birthday celebration for your grandparents that you have arranged with your family.

(a) Grandparents taken to the hotel as a surprise to them.

(b) Candles lit, cake cut and song sung by the children, grandchildren and other relatives.

(c) Speech given by the eldest child (son or daughter).

(d) Reply by the grandparents.

(e) Dinner party.

(f) Vote of thanks.

Q.6. **(1)** If mobile phones are not switched off, they can ring at any time causing disturbance. The audience will get disturbed and look here and there to see whose phone is ringing and the dignitaries and people on the stage too will get disturbed.

(2) She requests the people to be seated because the Head Girl Miss Shubhada Murarka was going to escort the dignitaries to the dais.

(3) At the beginning of the programme, the compere addresses the Head Girl by name.

(4) Yes, we have a School Anthem. It tells us about perseverance, and hard work. It tells us to spread peace and love and not be biased and partial in our lives.

(5) In our Indian culture, we consider our guests to be worthy of the respect and devotion, that we give to God.

(6) We learn that Shri Charudatta Diwan is a very eminent personality from the field of Art and Culture. He is also a renowned artist, a painter of international repute and a proud recipient of many prestigious awards. Besides this he is also the President of Kala Ranjan Academy.

(7) The compere thanks the Principal for welcoming the Chief Guest with a token of love and appreciation.

(8) **(a)** **Mr. Avadhoot Pathak,** the President of Balanand Academy.

(b) **Ms. Shubhada Murarka,** the School Captain and Cultural in-charge.

(c) **Mr. Ajinkya Parakhi,** Their inspiring dynamic Principal.

(9) The book is a volume comprising of photographs of all the beautiful and unique pieces of art that were displayed in the auditorium. These were the artistic and skilful contributions of the students.

(10) The compere thanks the Chief Guest because he released a special book on the occasion and formally inaugurated the art festival.

(11) Students of standard X A Sahil will give a vocal rendition and Varsha, Vivek and Govind are taking part in the Taal Kacheri by playing on their musical instruments.

(12) Rendering of beats on various drum instruments or a kind of rhythm orchestra.

(13) Vocal rendition is people singing the ragas and musical rendition is playing the ragas on musical instruments such as Mridangam, Dholak, Tabla and Ghatam.

(14) **(a)** After the Taal Kacheri has ended said the compere.

(b) And after the light comedy 'The Boy Comes Home' has been acted on the stage. Which was indeed a fantastic performance.

(15) 'Butterflies in the stomach' means getting a little nervous of going up on the stage.

Topic 3.3 : A Crow in the House

English Workshop :

Q.1. **(1)** **(a)** fidgeting **(b)** freedom **(c)** gleaming **(d)** fierce **(e)** occasional **(f)** objected **(g)** shallow **(h)** snobbish

(2) **(a)** unacceptable **(b)** scraps **(c)** success **(d)** aroused **(e)** pest **(f)** misfortune **(g)** regulate **(h)** scold

Q.2. The dog in the house could rush to catch the crow and want to bite it. When the dog saw the crow, Caesar, approaching he could growl and try to frighten the crow.

Harold the hornbill could have objected to Caesar's behaviour by pecking at him and screaming, swearing and scolding Caesar.

Q.3.

Caesar's Pranks at home	Caesar's Pranks Outside
Caesar joined the family at meal time. He danced about on the dining table. He hopped about the table emptying a match-box, overturning a vase or ripping the daily newspaper to shreds or tugging at the tail of one of the dogs. Caesar cawed and flapped his wings irritating everyone. Caesar would perch on top of Harold the hornbill's cage and peek at the bird's feet.	Caesar visited neighbouring houses and stole pens, pencils, hair ribbons, combs, keys, shuttle cocks, toothbrushes and false teeth. Caesar spied on children going into the bania's shop and snatched sweets from them. He stole the clothes pegs. He robbed the neighbour's beans.

Q.4. **Life story of Caesar**

↓

1. Young crow is saved by the narrator.

↓

2. The crow is named Caesar.

↓

3. Caesar begins to upset things at home.

↓

4. Caesar objects to being caged.

↓

5. Caesar begins to trouble neighbours.

↓

6. Neighbour flings a stick at Caesar.

↓

7. Caesar passes away.

Q.5. **(1)** Caesar learnt to talk a little as most ravens do. He did it in a cracked throaty voice. Caesar made it a habit to sit outside the window for hours banging on the glass and calling out 'Hello, Hello'. When the narrator opened the gate on his return home from school, Caesar heard the click of the gate and would rush to the door, hopping, skipping and jumping, Caesar would say 'Hello, Hello' to the narrator and sit on his arm and say 'kiss kiss'. Caesar would then place his head gently against the narrator's mouth.

(2) Caesar spied on children going into the bania's shop. These children went there to buy sweets. When the children left the bania's shop with their sweets, Caesar managed to snatch the sweets from the children.

Q.6. Yes, I have a pet. She is a female dog whose name is Bubbles. She loves me very much and feels very sad when I go to school. She cries till I reach home in the afternoon. When I reach home and give her, her lunch she is very happy. She follows me the whole day, afraid that I will go out again and leave her alone. If I stand up, she stands up. If I walk towards the kitchen she walks towards the kitchen. All my family members laugh to see Bubbles acting in this manner.

Q.7. **(1)** The young crow had fallen from its nest onto the road. There was danger of being crushed by a cart or a tonga, or of being seized by a cat.

(2) The other members of the author's family are the author's grandfather and grandmother and aunt Mabel.

(3) Yes, the author's grandfather liked animals. Grandfather helped the narrator to bring the crow around. Grandfather and the narrator fed the crow by prizing its beak gently open with a pencil, pushing in a little bread and milk and then removing the pencil to allow it to

swallow. Grandfather and the narrator varied the crow's diet with grandmother's home - made plum wine.

(4) The crow who was named Caesar asserted himself and did exactly what pleased him such as jumping and dancing on the dining table at times disrupting things.

(5) Caesar must have heard the other members of the family greeting one another. He must have heard the narrator and the grandfather saying 'hello' to him and the memorised the words and began using these words himself.

(6) Whenever aunt Mabel spoke to a pet or came in contact with one of the pets, something went wrong. This is the reason it is said that aunt Mabel was never a success with pets. Here when aunt Mabel leaned forward to be kissed by Caesar, his attention was shifted to aunt's gleaming spectacles, Caesar thrust them with his beak and knocked them off.

(7) Caesar went to the neighbour's houses and stole things such as pencils, pens, toothbrushes, etc. The narrator made a collection of these items specially of toothbrushes that Caesar loved to steal. The different toothbrushes belonged to different neighbours. This means that the neighbours were represented in the narrator's house by a toothbrush.

(8) When Caesar broke his leg, the narrator carried him home, washed and bandaged his leg as best as he could. When Caesar died, the narrator dug a shallow grave and buried him there with all the toothbrushes and clothes pegs that Caesar had taken.

Comprehension :

Extract - 1

Q.1. (1) **Caesar** took over the administration of the house.

(2) We gave him occasional doses of **grand mother** home-made plum wine.

(3) We removed the **pencil** to allow it to **swallow**.

Q.2. (1) True

(2) False - The young crow had fallen from the nest.

(3) False - The crow was offered freedom, but he did not take it.

(4) False - The narrator and his grandfather did their best to bring the crow around.

Q.3. (1) The sorry condition of the crow was that the crow's beak was gaping and his head was dropping.

(2) When the crow fell, it faced the danger of being crushed by a cart or a tonga or being seized by a cat.

(3) Grandmother, aunt Mabel and some of grandfather's pets objected to Caesar remaining in the house.

Q.4. (1) freedom - Abstract Noun

(2) administration - Common Noun

(3) aunt - Common Noun, Mabel - Proper Noun

Q.5. The narrator and his grandfather decided to feed the crow. They fed it by forcefully opening its beak in a gentle manner with the help of a pencil, and pushing in some bread and milk, then removing the pencil to allow the crow to swallow what was in its mouth.

Extract - 2

Q.1. (1) - (d), (2) - (b), (3) - (a), (4) - (c)

Q.2. (1) **(a)** He would hop across a table to empty a **match-box** of its contents.

(b) Grandfather picked **marigolds** off the carpet.

(c) Caesar had become **snobbish** and did not wish to mix with his own kind.

(d) **Harold** would swear and scold.

(2) **(a)** across, beetles, grub, raven

(b) scold, snobbish, soup, squabble

Q.3. **(1)** On his own, Caesar found his own grubs or beetles in the garden.

(2) The narrator gave Caesar a small bowl of meat and soup and vegetables.

(3) Caesar would empty a match-box of its contents or rip the daily paper to shreds or overturn a vase of flowers or tug at the tail of one of the dogs.

(4) Caesar objected with fierce cawing and flapping.

Q.4. **(1)** about, on **(2)** across **(3)** off **(4)** at

Q.5. Caesar was always restless and fidgety. He could not be quiet in one place. He was always investigating things. He would hop across a table and empty a match-box of its contents, or rip a daily newspaper to shreds, or overturn a vase of flowers, or tug at the tail of a pet dog in the family.

Extract - 3

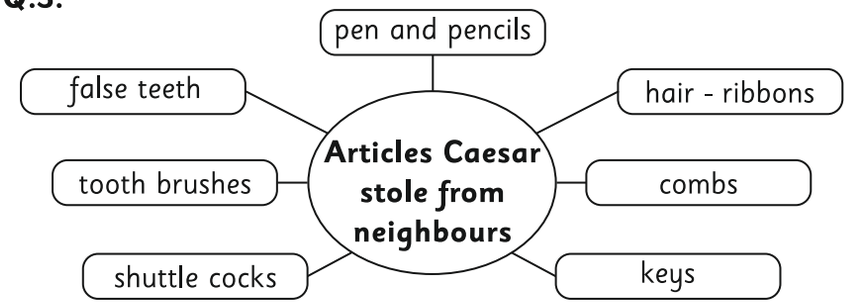
Q.1. **(1)** Caesar's gardening activities **(2)** a stick

(3) children **(4)** tooth brushes

Q.2. **(1)** (1) - (c), (2) - (d), (3) - (b), (4) - (a).

(2) **(a)** Caesar **(b)** easy

Q.3.



Q.4. **(1)** shallow **(2)** gardening

(3) unfortunate **(4)** occasional

Q.5. The narrator and his grandfather carried the unfortunate bird home and they washed and bandaged his leg as best as they could. The leg, however would not heal. Occasionally they gave Caesar grandmother's homemade wine that kept him going for some time, but finally the crow, Caesar died.

Topic 3.4 : The Brook

English Workshop :

Q.1. **(1)** **ridges** - lines joining two surfaces.

(2) **brimming** - filled to the brim - overflowing

(3) **eddying** - area of water moving in circular direction

(4) **babble** - make noise while flowing

(5) **fallow** - empty land

(6) **trout** - a kind of fish

(7) **netted** - rays cut with shadows

Q.2. **(1)** The speaker is the brook.

The poet Alfred Lord Tennyson is speaking as the Brook.

(2) The lines that are repeated are :

'For men may come and men may go,

But I go on for ever'

These lines mean that birds, animals, men, etc., will not last forever. One day they will come to an end, but the brook will continue to flow forever.

(3) The brook joins the river near Philip's farm.

(4) The brook flows down a valley, by thirty hills, by twenty thorpes, a little town, half a hundred bridges and finally by Phillip's farm.

(5) **(a)** 'I chatter over stony ways.'

(b) 'I babble on the pebbles.'

(c) 'I chatter, chatter, as I flow.'

Q.3. **(a)** I bubble into eddying bays.
I babble on the pebbles.

(b) By many a field and fallow

(c) I slip, I slide, I gloom, I glance

(d) Against my sandy shallows.

Q.4. from, out, between, by, on, over, about, in, out, upon.

Q.5. **(a)** With many a **curves on my banks**.

(b) By many a **field and fallow**.

(c) And many a **foreland set**.

(d) With many a **silvery waterbreak**.

Q.6. **(a)** I chatter over stony ways

(b) I bubble into eddying bays

(c) And here and there a lusty trout
And here and there a grayling

(d) I make the netted sunbeam dance
Against my sandy shallows.

Q.7. I am a brook. I came into existence much before you kids and your families were aware about me and I will continue to flow and join the river for years and years.

I flow along many pathways, between mountains and along ridges, below bridges and across lonely but lovely terrain. I make chattering sounds as I flow over pebbles and stones. I do not travel along a straight path, but go about in curves and curls. I move along waiting to see the brimming river into which I can flow.

Along my path, you can see beautiful and colourful flowers. There are fertile and lush lands, here and there are beautiful

cottages and along the grasslands there are cows moving along munching grass and drinking from my flow of water.

I do not travel quietly. I sometimes slide and sometimes gush forth specially when I am moving from a higher level to a lower level. I make different sounds as I flow along. Sometimes I bubble, sometimes I chatter. I often make musical sounds like little sharps or trebles. I am a very happy creature. I love moving to and fro and what I love the most is meeting the brimming river that is just waiting to greet me.

I love my life. I know that this life will go on for years and years.

Q.8. The river, the sky, the clouds, the stars, the Sun, the moon, the seas and oceans can say what the brook said.

Comprehension :

Extract - 1

Q.1. **(1)** The brook comes from haunts of coot and hern.

(2) The last place is Phillip's farm.

(3) It chatters as it moves over stony ways.

(4) It is set with willow-weed and mallow.

Q.2. **(1)** The words are chatter, bubble, babble.

(2) **(i)** stony ways **(ii)** eddying bays **(iii)** brimming river

(3) (1) - (c), (2) - (d), (3) - (b), (4) - (a).

(4) The rhyme scheme is a, b, a, b.

(5) Oxymoron - opposite expressions are added for poetic effect.

Q.3. The brook comes from haunts of coot and hern, flows down the valley, hurries down the thirty hills, slips between ridges, passes by twenty thorpes, passes by a small town and around fifty bridges till it passes Phillip's farm. Now the brook can join the brimming river.

Extract - 2

Q.1. (1) (1) - (c), (2) - (d), (3) - (a), (4) - (b)

(2)

Q.2. (1) The rhyme scheme is a b a b.

(2) **(a)** Antithesis - Two words in and out have opposite meanings.

(b) Repetition - 'men' is repeated for poetic emphasis.

Antithesis - two words 'come' and 'go' have opposite meaning.

(c) Alliteration - the sound of letter 's' and 'g' are repeated for poetic beauty.

(d) Alliteration - sound of letter 'g' is repeated for poetic effect.

Q.3. The brook winds its way and as it does so, it sees some graylings or some trouts around. As it travels, foamy flakes fall on it. The brook slips and slides and glooms and glances as it makes it way across its path. When the sun beam falls on the flowing water of the brook, it makes the sun beam dance. The brook murmurs under the moon and stars and loiters around small plants. It is just waiting to meet the brimming river.

Topic 3.5 : News Analysis

(A) CLOSED SHOES NOT ALLOWED IN EXAMINATION HALLS

Q.1. (1) gave out, sent

(2) those appearing for the test or exam

(3) those supervising the examinees

Q.2. The Shivam Institute of Innovative Technology, Bengaluru is conducting the test.

Q.3. (1) Closed footwear is not allowed in the examination hall because candidates may try to hide some matter written on paper, so that they can copy when the examination begins. If the candidates are wearing open footwear, they will not be able to hide any matter/paper that can be used for copying.

(2) Electronic gadgets may ring and disturb the candidates who have to concentrate on their examination. Electronic gadgets can be used to get answers from outside sources, hence, these gadgets are not allowed in the hall.

(3) The invigilators must be very vigilant and must keep moving all around the examination hall. Examinees must not be allowed to look anywhere except in their answer booklets.

Q.4. This news is published in newspapers to inform other institutes that they too can adopt such measures to eliminate copying.

(B) RITIKA TAKES A BREAK FROM ACTING

Q.1. (1) being paid more money than any other actress or actor.

(2) informed, told.

(3) act in films - make a contract.

Q.2. (1) Bollywood

(2) big - budget movie

Q.3. 'Ant' is a movie in which Ritika, the most famous and most highly paid star in Bollywood is acting. This is the reason why 'Ant' is a big-budget movie.

Q.4. Yes, there could be other reasons.

It could be that Ritika is keeping bad health hence she has to rest instead of exerting herself or may be, she has to go abroad for some medical treatment.

Q.5. Ritika may not be very happy to read this news because she may not be ready to tell the world and her fans about her decision. If this news has leaked out, without her permission, she will be angry with the media.

(C) MOST DANGEROUS TIME IN HISTORY

Q.1. 'Mankind' here refers to the human species. It includes men, women and children.

Q.2. **Planet -** planet on which we live, world.

Q.3. **(1)** Man has progressed so much in science. He has discovered so many new things in nature and has invented new and dangerous weapons and instruments like the nuclear bomb, etc., that are highly dangerous to mankind. If anything goes wrong with these gadgets the earth and everything on it will be blown to pieces.

(2) Science has helped us to achieve the impossible and our scientists are working hard to improve things on the earth. We are slowly but steadily becoming overpopulated. Soon there won't be place on the earth for man and then he'll go and build colonies among the stars in outer space. Man will slowly migrate to these colonies.

(3) Man has advanced a great deal undoubtedly but man must take care to see that our planet Earth does not get affected by science. Today mankind is facing a dangerous time. We are facing the challenge of climate change, overpopulation and epidemic diseases. At the moment man has nowhere to go. We have to take care of Mother Earth since earth is our only planet as things stand presently.

Q.4. This item has been given as news in other newspapers in order to alert the public and make man realise what is happening with the whole human race on the earth. Everyone will not be reading the 'Guardian'. Only a few people will get this information, hence it has been published in all newspapers to make everyone aware of global change, overpopulation and epidemic diseases.

Q.5. **(a)** Social **(b)** Cultural / Political **(c)** Science related **(d)** Social

Q.6. Other items are advertisements, reader's verdict on movies, reports, results of candidates who appeared for government exams, death announcements, sports news, etc.

(D) QUICK CURE FOR ALL AILMENTS ?

Q.1. **(1)** collect in huge/large numbers

(2) those who believe in someone

Q.2. The author is trying to make us think about the issue. It does not seem possible that there is a quick cure for all ailments. How can this be true? If there was such a cure, no one would be sick. This is an impossibility. Hence, there is a question mark put at the end of the title.

Q.3. The first part of the news is reliable and the last part too is reliable. The crowds can be seen gathering at a tiny settlement near Ambegaon waiting to get the medicine.

The last part tells us about the increase of patients in the Civil Hospital at Ambegaon. This is told by a doctor from that very hospital.

The news that Miribaba claims his powder can cure all sorts of diseases, and that this powder has been developed from a special herb in the Himalayas is unreliable.

The fact that Miribaba is not willing to give the exact name and source of the herb is also unreliable.

Q.4. I personally think that Miribaba and his followers will not like the news because he is portrayed as a shady character. They will especially not like the last part of the news where Dr. Karnik of Ambegaon Civil Hospital reveals that the number of patients in the hospital has increased.

Q.5. When you fall ill, visit the doctor at his clinic and reveal all your symptoms so that the doctor pinpoints the problem and gives the correct medicine to cure you of your illness.

English Workshop :

Q.1.

News Items	Good news Bad news	Reliable Unreliable	Interesting Uninteresting Boring	Others
(a)	Good news	Reliable	Interesting	Copying will become less
(b)	Bad news	Un reliable	Interesting	Fans will be disappointed
(c)	Bad news	Reliable	Interesting	Gives us insight
(d)	Bad news	Reliable	Interesting	Helps to open our eyes

Q.2. (1)

Grace Villa,
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26th Jan., 2017

The Principal
Orchid High School,
Fort,
Mumbai - 400 001.

Sub : Permission to start a news bulletin.

Respected Sir / Madam,

I, Rachel Rodrigues, the Head Girl studying in your esteemed institution, wish to start a news bulletin for standard X students. I have heard a lot about the news bulletin and this is a chance to get all the students aware of what is going on in the world and in our nation.

This will be a one-page bulletin which will be published every week. A different group of students will be put in charge to see to the preparation of the bulletin every time.

Respected Sir/Madam, I earnestly hope and pray that you give me the chance to begin with this news bulletin.

Hope to hear from you soon, Sir/Madam

Thanking you in anticipation.

Your devoted student,

Rachel Rodrigues

(2)

Rose Villa,
II X lane,
Byculla,
Mumbai - 400 027.
24th July, 2017

The Principal
Gloria Convent High School,
Byculla, Mumbai - 400 027.

Sub : Need for old newspapers for classroom activities.

Respected Madam,

I, Sarah Athaide the assistant Head Girl, studying in Std IX-A, wish to make a request on behalf of Std IX students. We need old issues of newspapers that are there in our library for some educational activities in our classroom. We require cuttings and news clippings from these newspapers.

Since, we will be cutting certain headlines and news from the newspapers, we will not be able to return them to the library, but I assure you, we will use them in a responsible manner.

We hope that you grant us this request.

We hope to hear from you soon,

Thanking you in anticipation.

Your devoted student,

Sarah Athaide

Topic 3.6 : Think Before You Speak!

Q.1. **(a)** **(1)** You must change before it is too late - verb.
(2) I do not have change in my purse - noun.
(b) **(1)** The show must go on - noun.
(2) You must show me your artwork - verb.
(c) **(1)** Throw the ball as high as you can - verb.
(2) The fielder's throw is simply great - noun.
(d) **(1)** I shall return tomorrow - verb.
(2) I bought a return-ticket to Churchgate - noun.
(e) **(1)** Exercise benefits everybody - verb.
(2) We will always reap the benefit of our hard work - noun.

Q.2. **(1)** they are open all the time.
(2) the words we speak have to pierce through the teeth.
(3) before a word is spoken it has to pass through this wall.
(4) it is difficult to take them back.

Q.3. I went quickly to my spiritual teacher for advice because I had spoken very harsh and unkind words to my friend and thus hurt my friend. I wanted to know how to make amends for what I had done.

I explained everything to my spiritual teacher. After listening to me, my teacher told me to take a blank sheet of paper and write the harsh words I had used, I did whatever my spiritual teacher asked me to do. My teacher then told me to tear the paper into a hundred tiny pieces and throw them out of the window. I did that too. It was a very windy day and the pieces flew all over. Next the teacher asked me to go and collect all the pieces. He

knew it would be difficult, but I had to do it. I went out and half an hour later, I returned without even one piece. I was completely exhausted.

My teacher then explained to me that once we say something, it is very difficult to take the words back. The harm is already done, hence we must think before we open our mouth.

I learnt a very good lesson from my teacher.

Q.4. **(1)** I personally do not think so. Disracli was just trying to impress upon us that we must talk less and listen more. This is good for us and for all those with us.

(2) Yes, I think he was trying to do just that and I am sure he succeeded very well.

(3) Man's ears do not have lids, hence the sound can pass through, there is nothing that can spill from man's ears, hence no fence or lid is necessary.

On the other hand things can spill from our mouth when we are eating, hence we can shut down our jaws and shut up our lips to prevent this. Our teeth also help us to chew and bite our food which is necessary for the digestion of food. Our lips and teeth are biologically important parts of our body.

(4) Yes, I remember in the lower standard, my friend and I had an argument. We shouted and screamed at each other. My friend started it but I was no better than my friend. I too began speaking harshly. My older sister happened to come by. She made us stop and explained that we must not lose our temper. My friend and I realised that we were wrong and apologised to each other. We have never allowed such a thing to recur till today.

(5) Before we open our mouths to speak we must ask ourselves three questions. The first one is 'is it true?' Are we sure about the truth of the matter or are we just listening to what others are saying. The second question is - 'is it pleasant?' are we using harsh words and causing anger and unpleasantness? The third question is - 'is it useful?' Will our harsh words benefit the other person or cause pain and anger?

If we bear these questions in mind, we will learn how and when to open our mouths and how to control our anger.

Comprehension :

Extract - 1

Q.1. **(1)** Once you have spoken a word you **cannot get it back**.

(2) Unspoken words are like **thoughts** in our minds.

(3) Before a word is spoken, it has to **pierce through** the two walls.

(4) Man was meant to **listen more** and **talk less**.

Q.2. **(1)** Ears are compared to funnels, open all the time.

(2) He would have had two mouths and only one ear.

(3) Once you have spoken a word, you cannot get it back.

(4) The first fence is the two rows of teeth and the second one are the two lips.

Q.3. **(1)** False - Before a word is spoken, it has to pierce through the two walls or fences.

(2) False - Man was meant to listen more and talk less.

(3) True

(4) True

Q.4. **(1)** **(a)** Before, through **(b)** twice, before **(c)** back

(2) **(a)** nature **(b)** was

Q.5. Whenever we wish to say something, our words must pass through two barriers. The first one is the two rows of teeth and the second one is our lips. Before a word is spoken it has to pierce through these two fences. Hence we must be very careful what we want to say and we must think twice before the words leave our mouth. We must always bear in mind that once a word is spoken we cannot take it back.

Extract - 2

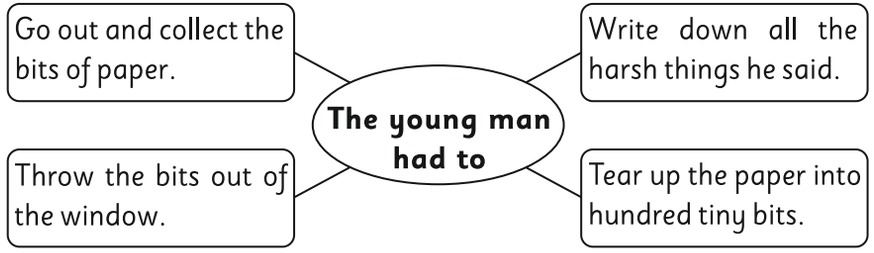
Q.1. **(1)** The single sheet was torn into **a hundred tiny bits of paper**.

(2) The tiny bits were **scattered far and wide** even as the man watched.

(3) The man returned half an hour later **exhausted**.

(4) Learn to think before **you speak in anger**.

Q.2. **(1)**



(2) **(1)** False - The wise teacher gave him a fresh sheet.

(2) True

(3) True

(4) False - The young man was mot able to get hold of a single torn bit of paper.

Q.3. (1) - (c), (2) - (d), (3) - (b), (4) - (a)

Q.4. **(1)** blank **(2)** harsh, unkind

(3) young, spiritual **(4)** many, tiny

Q.5. The spiritual teacher tried to explain to the young man that the spoken word cannot be taken back. Just as the tiny bits of paper flew away with the wind, our words fly away from us and hurt others. Once we have spoken the words aloud, it is very difficult to take them back, hence we must think before we speak in anger.

मराठी सुलभभारती

८. शब्दांचे घर

स्वाध्याय

प्र.१. (अ) स्वर (आ) गाणे (इ) काना – मात्रा – वेलांटी

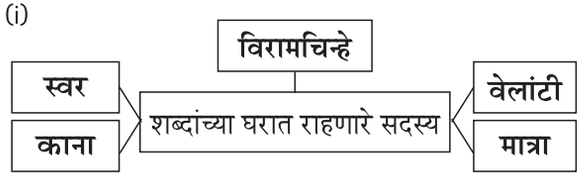
प्र.२. (१) घरात होता, **काना – मात्रा वेलांटीचा मेळ**
एकोप्याने खेळायाचे सगळे अक्षर – खेळ.

(२) एखाद्याची **धुसफुससुद्धा हवीहवीशी छान**
प्रत्येकाला अर्थ वेगळा सुखदुःखाचे भान.

(३) कानोकानी **कुजबुजताना अंकुर मनकोवळा**
वाट मोकळी होऊन लागे कवितेचाही लळा.

कृतिपत्रिका

प्र.१. (अ) (१) (i)



(ii) रेघांचे

(२) (i) विरामचिन्हांची

(ii) शब्दांच्या घरात

(३) वेलांटी, काना, मात्रा, सगळे घरात एकोप्याने राहायचे आणि अक्षर खेळ खेळायचे.

(४) भाषेमुळे एकमेकांशी संवाद साधला जातो. भाषेमुळे आपण अनेक जणांशी मैत्री करू शकतो. भाषेमुळे विचार करण्याची क्षमता वाढते. समूहात रहाण्यासाठी भाषेचा उपयोग होतो. आपल्या मनातील भावना, विचार, कल्पना, अनुभव आपल्याला भाषेमुळे व्यक्त करता येतात. भाषेमुळे आपण आपल्या

मनातील आनंद, द्वेष दुसऱ्यापर्यंत सहजपणे पोहोचवू शकतो. भाषेमुळे आपला शब्दसंग्रह वाढतो. ज्ञान वाढते. भाषेमुळे व्यवहारातील कामे सुलभ होण्यास मदत होते. भाषेमुळे आपण बोलणे, वाचणे, लिहिणे व आकलन करणे ही कौशल्ये विकसित करू शकतो.

(आ) प्र.१. कल्याण इनामदार

प्र.२. घरात होता, काना–मात्रा–वेलांटीचा मेळ
एकोप्याने खेळायाचे सगळे अक्षर–खेळ

प्र.३. घरात काना, मात्रा, वेलांटी एकत्र रहायचे आणि सर्वजण मिळून आनंदाने अक्षरांचा खेळ खेळायचे. अशी सुंदर कल्पना या ओळींमध्ये मांडलेली आहे. काना, मात्रा, वेलांटी लावल्याने अक्षर, शब्द तयार होतो. शब्दांच्या घरात हे सारे एकत्र रहातात ही कल्पना मजेशीर वाटल्याने या ओळी आवडल्या.

प्र.४. एकमेकांशी न भांडता सर्वांनी एकोप्याने, गुण्यागोविंदाने राहावे.

प्र.५. (i) (अ) छपरे (ब) शब्द

(ii) (अ) सुख × दुःख (ब) सुंदर × कुरूप
(क) वेगळा × सारखा (ड) अर्थ × अनर्थ

खेळूया शब्दांशी

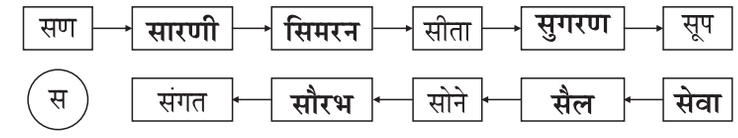
(अ) (१) धुसफुस (२) अंकुर (३) कानोकानी

(आ) (अ) सुंदर (ब) हळवे (क) मनकोवळा (ड) मोकळी

(इ) नजर ⟶ रचना ⟶ नाच ⟶ चमचा ⟶ चाफा

खेळ खेळूया

(आ)



शब्दकोडे सोडवूया

* (१) नंतर (२) नजीक (३) समोर (४) वर
(५) प्रमाणे (६) साठी (७) सकट (८) खाली
(९) पुढे (१०) सह (११) मागे

वाचा

मुलांनो, शाळेत तुम्हांला अनेक मित्र असतात. तुमची काळजी घेणारे, तुमचे आरोग्य जपणारे असे अनेक मित्र तुमच्या सभोवती आहेत. कोण बरे आहेत हे मित्र? असा प्रश्न तुम्हांला निश्चितच पडेल. आपल्याला फळे, फुले सावली देणारे वृक्ष; आपल्याला पिण्यासाठी पाणी देणाऱ्या नद्या, श्वसनासाठी ऑक्सिजन देणारी हवा, आपण ज्यावर निवांतपणे राहतो अशी जमीन अर्थातच आपल्या सभोवतालचा निसर्ग हाच आपला खरा मित्र आहे.

प्रकल्प : विद्यार्थ्यांनी स्वत: करा.

९. वाचनाचे वेड

स्वाध्याय

प्र.१. (अ) सोनालीने आपल्या अभ्यासाशिवाय दररोज किमान दोन पाने अवांतर वाचावीत. तिला वाचनाची आवड लागावी असे सोनालीच्या आईला वाटत होते.

(आ) कथांचा सारांश लिहून काढण्यासाठी सोनालीने पुन्हा एकदा पुस्तक वाचते असे आईला सांगितले. तिला लागलेली ही वाचनाची गोडी पाहून घरातील सर्वांना नवल वाटत होते.

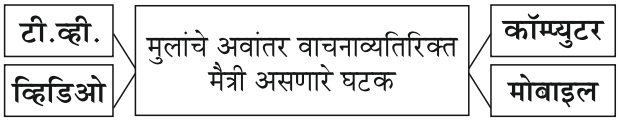
(इ) सोनालीला प्रोत्साहन देण्यासाठी तिच्या बाबांनी वाढदिवसाला एक छानसे पुस्तक तिला भेट दिले आणि सोबत तिच्या वर्गातील साऱ्याच मुलामुलींना एकेक पुस्तक भेट स्वरूपात दिले.

प्र.२. (१) सोनालीला अवांतर वाचनासाठी प्रवृत्त करण्याकरिता आईला यश येत नव्हते. एका शाळेत पाहुणी म्हणून गेल्यावर तेथील मुलांना सांगण्यासाठी, एक गोष्ट सोनालीने पुस्तकातून निवडून द्यावी,यासाठी आईने सोनालीच्या हातात एक गोष्टीचे पुस्तक दिले.

(२) आईने दिलेल्या पुस्तकातील सर्वच कथा सोनालीला आवडल्या पण त्यातली कोणती निवडावी ते तिला समजेना म्हणून आईने वाचलेल्या सर्व कथांचा सारांश सोनालीला लिहायला सांगितला.

(३) शाळेत गेल्यावर सोनालीने बाईंना आपण आईला काय आणि कशी मदत केली ते सांगितले, सोबत एक कथाही ऐकवली. बाईंनी प्रथम आईला मदत केली म्हणून तिचे अभिनंदन केले व वर्गात छान गोष्ट सांगितली म्हणून कौतुकाने शाबासकी दिली. सोनालीला खूप आनंद झाला आणि तिने वेगवेगळी पुस्तके वाचून त्यातील आवडलेले प्रसंग व ओळी लिहून ठेवण्याचे ठरवले म्हणून आता तिला पुस्तके वाचत जा असे सांगण्याची गरज उरली नाही.

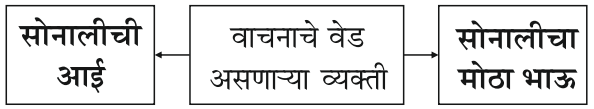
प्र.३.



कृतिपत्रिका - १

उतारा क्र. १

प्र.१. (अ) (१)(i)



(ii) (अ) वाचन (ब) घर

(२) (i) (अ) आनंद (ब) गोष्टीचे पुस्तक

(ii) सोनालीला अवांतर वाचनासाठी प्रवृत्त करण्याकरिता आईला यश येत नव्हते.

(३) (i) गोष्ट (ii) आई (iii) आवड (iv) आनंद

(४) प्रत्येकाला आयुष्यात वेगवेगळे छंद असतात. छंद म्हणजे जोपासलेली आवड. प्रत्येकजण आपल्या मोकळ्या वेळेत आपला छंद जोपासत असतो. वाचन, गायन, नृत्य, चित्रकला असे अनेक छंद मुले जोपासतात. माझा आवडता छंद आहे सायकल चालवणे. खरे तर माझ्या बाबांनी मी चौथीत होतो

तेव्हा उंची वाढण्यासाठी मला सायकल आणली होती. बाबांनी सायकल चालवायला शिकवली. नंतर मात्र सायकल चालवणे हा माझा छंद कधी झाला ते समजलेच नाही. मला जेव्हा जेव्हा वेळ मिळतो तेव्हा मी सायकल चालवण्याचा आनंद घेतो. सायकल चालवताना माझ्यात एक वेगळाच उत्साह संचारतो. एक वेगळीच ऊर्जा व आनंद मला त्यातून मिळतो. शिवाय व्यायामही होतो. सायकलसाठी कोणतेही इंधन लागत नाही. सायकल चालवल्याने माझे मन प्रसन्न व प्रफुल्लित असते. सायकल ही माझा आरोग्यदायी मित्र बनला आहे. मी तिची खूप काळजी घेतो. असा हा मला निरोगी ठेवणारा छंद मी कायमच जोपासणार आहे.

कृतिपत्रिका - २

उतारा क्र. ३

प्र.१. (अ) (१)(i) सोनालीला पुस्तक वाचताना पाहून नवल वाटणारे

आजी आजोबा बाबा दादा काका काकू

(ii) (अ) एक-दीड तास (ब) दहा

(२)(i) सोनालीला उत्सुकता वाटणाऱ्या गोष्टी

पुढची कथा काय आहे पुढच्या कथेत काय लिहिले आहे.

(ii) सारांश

(३)(i) (अ) गोष्टी (ब) पुस्तक

(ii) (अ) गोष्ट (ब) अवघ्या

(४) फक्त अभ्यास एके अभ्यास करायचा मला कंटाळा येतो. शाळेत होणाऱ्या प्रत्येक स्पर्धेत - उपक्रमात भाग घ्यायला मला आवडतो. चित्रकला स्पर्धेत चित्र काढायला आवडतात. खेळांच्या स्पर्धांमध्ये सहभाग घेऊन मित्रांना हरवायला खूप मजा येते. खेळायला गेल्यावर

खूप ताजेतवाने वाटते. स्नायूंचा खूप व्यायाम होतो. भूक चांगली लागते आणि झोपही पटकन लागते. शाळेत होणाऱ्या वक्तृत्वस्पर्धेतही भाग घ्यायला आवडतो. व्यासपीठावर उभे राहून सर्वांसमोर आपले विचार मांडताना माझा ऊर अभिमानाने भरून येतो. अशाप्रकारे सगळीकडे सहभागी होणे मला आवडते.

कृतिपत्रिका - ३

उतारा क्र. ३

प्र.१. (अ) (१)(i)

घरातल्या	← सोनालीने येथील पुस्तकांचे वाचन करायचे ठरवले →	**शाळेच्या वाचनालयातल्या**

(ii) आईने सोनालीचे घरातल्या साऱ्यांपुढे कौतुक केल्यामुळे सोनालीचा आनंद गगनात मावत नव्हता.

(२)(i) सोनाली वहीमध्ये लिहून ठेवत असे त्या गोष्टी → **आवडलेल्या ओळी**, **एखादा प्रसंग**

(ii) आईने

(३)(i) आई - नाम, तिचे - सर्वनाम,
खूप - विशेषण, वाटले - क्रियापद

(ii) (अ) बाबा (ब) आजोबा
(क) ताई / वहिनी (ड) काका

(४) सहामाही परीक्षा संपल्या होत्या. दिवाळीची सुट्टी होती. आमच्या परिसरातच बालविद्या भवन म्हणून संस्था आहे. तेथे सुट्टीमध्ये वेगवेगळे उपक्रम राबवले जातात. मी आणि माझ्या मित्राने तेथे सुलेखन वर्गामध्ये प्रवेश घेतला होता. सुलेखन म्हणजे सुंदर हस्ताक्षराची कला. आमचे हस्ताक्षर सुधारावे, अक्षरांना सुंदर वळण लागावे, अक्षर सुस्पष्ट असावे, म्हणूनच आम्ही या उपक्रमात भाग घेतला होता. आम्हाला तेथे अक्षरांची उंची, पसरटपणा, गोल, वाटोळे, चौकोनी इ. आकार, वळण इ. गोष्टींमध्ये विविधता आणून सुलेखनात सौंदर्य कसे आणता येते हे शिकवले गेले. सुलेखन हे आपले आंतरिक प्रतिबिंब असते

असे म्हणतात. त्यातून आपले व्यक्तिमत्त्व दिसते. पुढील अभ्यासक्रमासाठी आणि भावी आयुष्यात आम्हाला त्याचा उपयोग होईल म्हणून आम्ही हा वेगळा उपक्रम केला. त्यातून आम्हाला बऱ्याच गोष्टी शिकायला मिळाल्या.

खेळूया शब्दांशी

(अ) (१) यशस्वी होणे (२) लिहून ठेवणे.
(३) खूप आनंद होणे. (४) आश्चर्य वाटणे.

(आ) (i) आमूलाग्र – वाक्य : 'श्यामची आई' हे पुस्तक वाचल्यावर, लीनाच्या वर्तनात आमूलाग्र बदल झाला.

(ii) शाबासकी – वाक्य : सुंदर चित्र काढल्यावर मिनूला बाईंनी शाबासकी दिली.

(iii) अवांतर – वाक्य : अवांतर वाचनामुळे आपले ज्ञान वाढते.

(इ) (i) पारितोषिक (ii) विजय (iii) कथा
(iv) साहाय्य (v) रस

(ई) विद्यार्थ्यांनी स्वत: करा.

आपण समजून घेऊया

(अ) **आई :** आपल्याकडे पाहुणे येणार आहेत, <u>म्हणून</u> आपण पुरणपोळी करूया.

अंकुश : आई, तू बटाट्याची भाजी <u>अन्</u> पुऱ्या कर म्हणजे मी तुला मदत करू शकेन, शिवाय स्वयंपाकही लवकर होईल. <u>जर</u> पाहुणे लवकर आले, <u>तर</u> त्यांना वेळेवर जेवायला मिळेल; <u>पण</u> पाहुण्यांना आवडेल <u>ना</u> आपण केलेला स्वयंपाक ?

आम्ही बातमी वाचतो.

(१) डॉ. ए.पी.जे. अब्दुल कलाम यांचा जन्मदिवस आपण वाचन प्रेरणा दिन म्हणून साजरा करतो.

(२) वरील बातमी १६ ऑक्टोबरची आहे.

(३) वाचन प्रेरणा दिनाची सुरुवात ग्रंथदिंडीने करण्यात आली. परिसरातील महत्त्वाच्या चौकांत 'वाचन संस्कृती वाचवा' या विषयावर मुलांनी पथनाट्ये सादर केली. 'उत्कृष्ट वाचन' ही स्पर्धा घेण्यात आली. अशा प्रकारे वेगवेगळ्या कार्यक्रमांचे आयोजन करण्यात आले.

(४) इयत्ता सातवीतील शेखर काजळे या विद्यार्थ्यांस 'उत्कृष्ट वाचक' म्हणून बक्षीस देण्यात आले.

(५) विद्यार्थ्यांमध्ये वाचन कौशल्य वाढावे यासाठी शाळेत पुढील उपक्रम घेता येतील.

(अ) विद्यार्थ्यांना वाचण्यासाठी पुस्तके सहज उपलब्ध करून दिली पाहिजेत.

(आ) जास्त पुस्तके वाचणाऱ्या मुलांना वर्षाअखेर बक्षीस द्यावे.

(इ) पुस्तक प्रदर्शन भरवावे.

(ई) लेखक –कवी यांच्याशी गप्पा मारण्याची संधी विद्यार्थ्यांना उपलब्ध करून द्यावी.

१०. पंडिता रमाबाई

स्वाध्याय

प्र.१. (अ) 'मला भारतातील सर्व स्त्रिया सारख्याच आहेत. जेथपर्यंत माझ्या शरीरात रक्ताचा एक बिंदुमात्र आहे, तेथपर्यंत आपल्या स्त्री–जातीचे कल्याण व सुधारणा करण्याच्या कामापासून मी पराङ्मुख होणार नाही. स्त्री जातीची सुधारणा करण्याचे व्रत मी धारण केले आहे.' या त्यांच्या उद्‌गारांवरून त्यांना स्त्री जातीविषयी अपार प्रेम होते हे समजते.

(आ) अडीच हजार लोक बसू शकतील असे प्रार्थनामंदिर बांधताना रमाबाईंनी त्याचा आराखडा स्वत:च तयार केला आणि डोक्यावर विटांचे घमेले वाहून बांधकामाला हातभारही लावला. या प्रसंगातून पंडिता रमाबाई कष्टाळू व काटकसरी होत्या हे जाणवते.

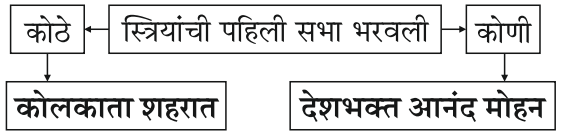
प्र.२. (अ) बिपिनबिहारी मेधावी (आ) मनोरमा
(इ) ब्रेल लिपी (ई) पंडिता रमाबाई

प्र.३. सहस्त्रकातील एकमेव कर्मयोगिनी व सत्शील साध्वी, सूर्यकन्या ही विशेषणे पंडिता रमाबाईंसाठी पाठात आलेली आहेत.

कृतिपत्रिका - १

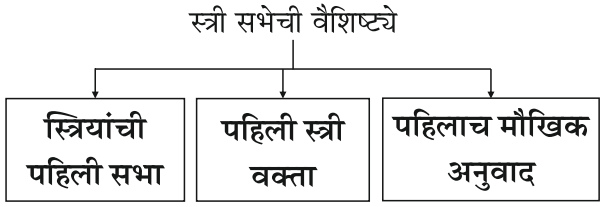
उतारा क्र. १.

प्र.१. (अ) (१) (i)



(ii) पंडिता रमाबाईंना त्या वेळी बंगाली भाषा येत नव्हती म्हणून त्यांनी स्त्रियांच्या पहिल्या सभेत संस्कृतमध्ये भाषण केले.

(२) (i)



(ii) बावीस वर्षे

(३) (i) हार, हात, भारत, भात

(ii) (अ) विवाह (ब) वैशिष्ट्ये
(क) ख्याती (ड) कठीण

(४) महात्मा ज्योतिबा फुले यांचा जन्म १८२७ रोजी पुण्यात झाला. महात्मा फुले हे मराठी लेखक, विचारवंत आणि समाजसुधारक होते. स्त्रियांना बाजूला करून समाजसुधारणा होणे शक्य नाही हे जाणून त्यांनी स्त्रियांना शिक्षण देण्याच्या उद्देशाने ऑगस्ट १९४८ मध्ये खास मुलींसाठी पुण्यामध्ये पहिली शाळा सुरू केली. आपली पत्नी सावित्रीबाई फुले यांना शिक्षक म्हणून

नेमले. त्या काळच्या लोकांना ही गोष्ट पटली नाही म्हणून त्यांनी ज्योतिबा फुले व सावित्रीबाई फुले यांना त्रास दिला पण महात्मा फुलेंनी माघार घेतली नाही. त्या काळी स्त्रियांना उपेक्षितांचे जीवन जगावे लागे. त्यांना पुरुषांप्रमाणे सन्मानाने जगता यावे म्हणून विधवा पुनर्विवाहाचा पुरस्कार केला. बालहत्या प्रतिबंधगृह उघडले. विधवांना खास करून संकटात सापडलेल्या विधवांना महात्मा ज्योतिबा फुले यांची मोलाची साथ मिळाली होती. स्त्रियांच्या उद्धारासाठी त्यांनी केलेले कार्य अद्वितीय असेच आहे.

अतिरिक्त कृती

प्र.१. पंडिता रमाबाईंचे पती

प्र.२. (१) स्त्रीला शिक्षणापासून वंचित ठेवले जात असताना, एक परप्रांतातील परभाषक - स्त्री महाभारतकालीन संदर्भ देऊन स्त्रियांच्या सभेत प्रबोधन करते ही घटनाच फार आगळीवेगळी होती.

(२) आई, वडील, बंधू यांच्या निधनानंतर एकटे जगणे किती कठीण आहे, हे अनुभवल्यानंतर पंडिता रमाबाईंनी विवाह करण्याचे ठरवले.

कृतिपत्रिका - २

उतारा क्र. २.

प्र.१. (अ) (१) (i) न्यायमूर्ती रानडे यांचे घर

(ii) व्याख्यानाला येणाऱ्याने आपल्यासोबत घरातल्या एका स्त्रीला आणल्याशिवाय प्रवेश मिळणार नाही अशी अट घातलेली असे.

(२) (i) काशीबाई कानिटकर (ii) पुण्यात

(३) (i) सुधारक

(ii) (अ) शिक्षक (ब) सासू

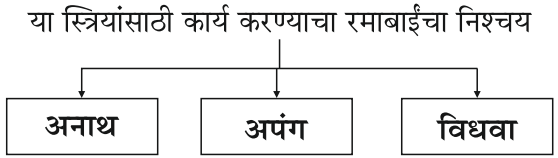
(४) स्त्रियांनी शिकले व शिकवले पाहिजे, त्यासाठी आपल्या मातृभाषेचे अचूक ज्ञान प्राप्त केले पाहिजे. शिक्षिका म्हणून उभ्या राहण्यासाठी

स्त्रियांना प्रोत्साहन म्हणून शिष्यवृत्त्या दिल्या पाहिजेत अशी शिफारस पंडिता रमाबाईंनी हंटर कमिशनकडे केली.

कृतिपत्रिका - ३

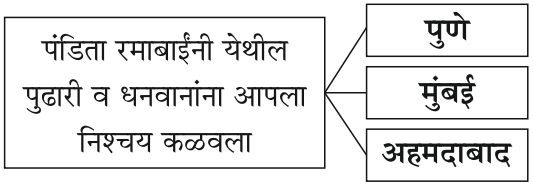
उतारा क्र. ३.

प्र.१. (अ) (१) (i)



(ii) स्त्री जातीची सुधारणा

(२) (i)



(ii) गृहस्थाने दहा हजार रुपये देऊन त्या रकमेत रमाबाईंनी त्यांचे चाळीस हजार रुपयांत होणारे काम करून दाखवावे अशी अट घातली.

(३)(i) (अ) धनवान (ब) उदार
(क) स्वावलंबी (ड) जीवन

(ii) (अ) स्त्रिया (ब) रुपये

(४)पंडिता रमाबाई यांचा जन्म २३ एप्रिल १८५८ रोजी कर्नाटक येथे झाला. आईवडिलांच्या मृत्यूनंतर त्या कोलकातामध्ये आल्या. भारतातील कोलकाता शहरात भरलेल्या स्त्रियांच्या पहिल्या सभेत बंगाली भाषा येत नव्हती म्हणून त्यांनी संस्कृतमध्ये भाषण केले. अतिशय विद्‌वान वकील म्हणून प्रसिद्‌ध असलेल्या बिपिनबिहारी मेधावी यांच्याशी त्यांनी वयाच्या २२ व्या वर्षी लग्न केले. पतीच्या निधनानंतर त्या आपल्या मुलीला घेऊन पुण्यात आल्या. तेथे त्यांनी अनेक व्याख्याने दिली. स्त्रियांनी शिकले पाहिजे. त्यांनी मातृभाषेचे

ज्ञान मिळवले पाहिजे. शिक्षिका होण्यासाठी त्यांना प्रोत्साहन देण्यासाठी शिष्यवृत्त्या मिळाल्या पाहिजेत म्हणून हंटर कमिशनकडे मागणी केली. स्त्री-जातीची सुधारणा करण्याचे व्रत त्यांनी घेतले होते. स्त्री-जातीविषयी अपार प्रेम आणि त्यांचे दु:ख दूर करण्याची त्यांना तळमळ होती. पंडिता रमाबाईंनी मुक्तिमिशनची स्थापना केली. तेथे मुलींना स्वावलंबी करण्याच्या हेतूने वेताच्या खुर्च्या विणणे, मोजे विणणे, भांड्यांना कल्हई करणे, चित्रे छापणे, दवाखाना चालवणे, घाण्यावर तेल काढणे असे अनेक उद्‌योग सुरू केले. त्या काळी ही आश्चर्याची गोष्ट होती. कोणतेही काम करताना त्यांनी कधीच कमीपणा मानला नाही. रमाबाईंचे आयुष्य खडतर होते पण त्यांनी माघार घेतली नाही. स्त्रीचा एक व्यक्ती म्हणून विचार व विकास करणाऱ्या पंडिता रमाबाईंचे काम असाधारण असेच आहे.

कृतिपत्रिका - ४

उतारा क्र. ४.

प्र.१. (अ) (१) (१) मुक्तिमिशन-मुली स्वावलंबी

(२) प्रार्थनामंदिराचा आराखडा - रमाबाई

(३) अंध व्यक्ती - ब्रेल लिपी

(४) संघर्षाची कहाणी - रमाबाईंचे आयुष्य

(२) (i) (अ) वेताच्या खुर्च्या विणणे.

(ब) भांड्यांना कल्हई करणे

(ii) ब्रेल लिपी

(३)(i) (१) <u>अरेरे !</u> त्यांचे खूप हाल झाले.

(२) <u>बापरे !</u> केवढा मोठा समुद्र.

(ii) (अ) सुख × दु:ख (ब) स्वदेश × परदेश

(क) विचार × अविचार (ड) ज्ञान × अज्ञान

(४) पंडिता रमाबाईनी मुक्तिमिशनमध्ये स्त्रियांसाठी केळीच्या सोपट्यापासून टोपल्या बनवणे, वाखाच्या दोऱ्या वळणे, वेताच्या खुर्च्या विणणे, लेस, स्वेटर, मोजे विणणे, गाई-बैलांचे खिल्लार, शेळ्या मेंढ्यांची चरणी, म्हशींचा गोठा, दूधदुभते, कुक्कुटपालन, सांडपाणी-मैल्यापासून खत, भांड्यांवर नावे घालणे, भांड्यांना कल्हई करणे, हातमागावर कापड-सतरंज्या विणणे, घाण्यावर तेल काढणे, छापखान्यातील टाईप जुळवणे-सोडणे, चित्रे छापणे, कागद मोडणे - पुस्तक बांधणे, दवाखाना चालवणे, धोबीकाम असे कितीतरी लहान-उद्योग सुरू केले.

खेळूया शब्दांशी

(अ) (१) **आराखडा :** खडा, खरा, आख

(२) **सुधारक :** सुधा, धार, धाक, धारक, कर, सुर

(आ) तरंग, सारंग, प्रारंभ, आरंभ, निरंक, परंतु, बेरंग

(इ) (१) मस्तक (२) ममता (३) सागर
(४) सडक (५) मांजर (६) आवास

(ई) विद्यार्थ्यांनी स्वत: कृती करा.

खेळ खेळूया.

(१)

अ	णा	श	त्या
का	ति	चा	ल
हा	मा	बै	रि

अति शहाणा त्याचा बैल रिकामा

ए	भा	ना	ध
रा	क	ड	ध्या
भ	चिं	र	

एक ना धड भाराभर चिंध्या

ऐ	ज	चे	क
ना	का	वे	ना
म	रा	वे	चे

ऐकावे जनाचे करावे मनाचे

चो	शी	डू	शा
र	फा	न	न्या
सो		सं	ला

चोर सोडून संन्याशाला फाशी

घ	घ	ती	
रो		ली	च्या
री	मा		चु

घरोघरी मातीच्या चुली

(२) (अ) अरेरे ! (आ) चूप ! (इ) शी ! (ई) अबब !

(३) आज सुट्टी असूनही मला लवकर जाग आली होती. बाबा रोज सकाळी फिरायला जातात. आज मीही त्यांच्याबरोबर फिरायला निघालो. केवढी! शांतता होती बाहेर. ना मोटारींचा आवाज, ना धूर. पूर्वेकडे हळूहळू सूर्य वर येत होता. आकाशात तांबूस प्रकाश पसरला होता. ढगांना लाली चढली होती. इतक्यात काय गंमत झाली. एका झाडावरून पक्ष्यांचा थवा उडू लागला. मला खूप मज्जा वाटली. जरा नजर वळवून पाहतो तर काय, एकेका झाडावरून पक्ष्यांचे थवेच्या थवे उडत होते. त्यांचा किलबिलाट तर मन मोहून टाकणारा होता. हवेत मंद गारवा होता. कसलीही गडबड नाही, गोंधळ नाही. वातावरण अगदी आल्हाददायक होते. मी शुद्ध हवा अनुभवत होतो. मला खूप प्रसन्न वाटत होते. या निर्मळ निसर्गाचा मी प्रथमच आनंद घेत होतो. बाबांशी गप्पा मारत मी कधी घरी परतलो, हे कळलेच नाही. कोणतेही हेल्थ ड्रींक न घेता मला आज ताजेतवाने वाटत होते. मी मनाशी पक्का निश्चय केला की रोज सकाळी बाबांबरोबर फिरायला जायचं आणि निसर्गाचा बूस्टर डोस घ्यायचा.

(४) (१) आणि (२) परंतु (३) म्हणून
(४) किंवा (५) तरी (६) वा

११. लेक

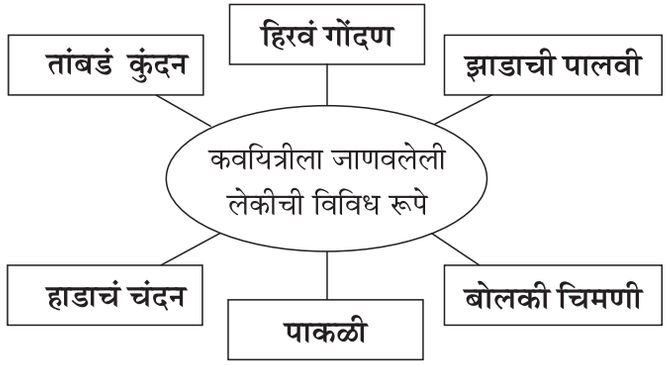
स्वाध्याय

प्र.१. (अ) लेक घरात नसताना कवयित्रीची अवस्था विचित्र होते. वेळ जाता जात नाही जणू काही वेळ थांबूनच राहिली आहे असे वाटते. मन खूप उदास होते. कशातही लक्ष लागत नाही.

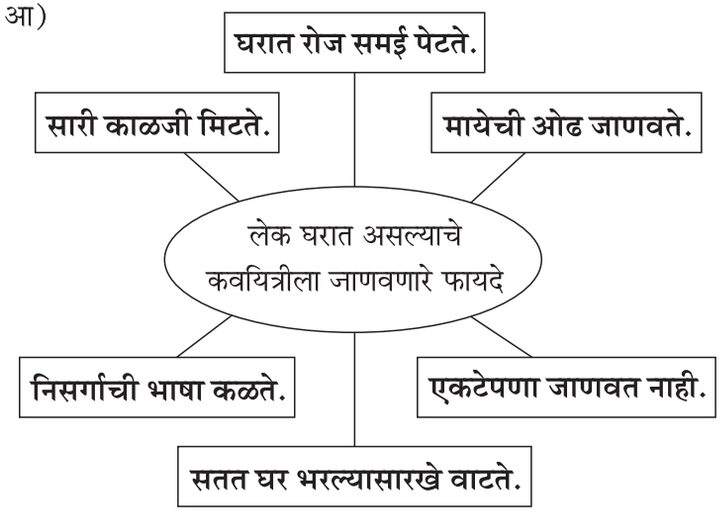
(आ) कवयित्रीला आपली लेक बोलकी चिमणी वाटते कारण ती सगळ्या घरात हसत-खेळत, बागडत असते. तिची घरात अखंड बडबड सुरू असते.

(इ) थोडे रागावले तर कवितेतील लेक रुसून बसते.

प्र.२. (अ)



(आ)



प्र.३.

अविस्मरणीय	अवांतर	अस्तर	आठ्या
आमूलाग्र	आस	आसू	उमेद
ऊर	अंकुर	कपाशी	कर्मयोगिनी
काटकसर	काळीज	कुंदण	खुळे
गहिवर	गाबड्या	गुजराण	गोंदण
गंधवती	जुजबा	ठणठणीत	तप्त
तान्ह्या	दुखणेकरी	दुर्गम	दुथडी
धास्ती	धुसफुस	नानेटी	निरपेक्ष
पराङ्मुख	पाारंपरिक	पोशिंदे	पंचमहाभूते
प्रबोधन	फलद्रूप	फुशारकी	मिजास
यथेच्छ	रानमेवा	रोजगारी	वक्ता
वणवा	विरजण	व्रात्य	शाळू
शिंपी	सत्शील	सुगी	हळवे
हेवा	हेलावणे		

कृतिपत्रिका

प्र.१. (१) (i) लेकीला (ii) लेक घरात नसते.

(२) (i) तांबडं – कुंदन

(ii) लेकीला ही भाषा कळते – निसर्गाची | हिरवं – गोंदण

(३) सगळे जग जरी आपल्यावर रागावले, तरी त्याविषयी मुळीच चिंता करू नये. पण आपली लाडाची लेक जणू फुलाची पाकळी मात्र कधीच रुसून बसू नये.

(४) माझी ताई घरात नसली, तर मला काही सुचेनासे होते. चैन पडत नाही. ताई घरी कधी येईल? याची मी वाट पहात बसते. ती नसल्यामुळे माझा अभ्यास अपूर्ण राहतो, माझ्याशी कुणी खेळायला नसतं की भांडायला कुणी नसतं.

अतिरिक्त कृती

प्र.१. अस्मिता जोगदंड – चांदणे

प्र.२. लेक असता मनाची, सारी काळजी मिटते;
लेक असता घराची, रोज समई पेटते.

प्र.३. आपल्या देशात मुलींना दुय्यम वागणूक दिली जाते. पण मुलाइतकीच मुलगी महत्त्वाची आहे. मुलगा घराचा कुलदीपक असेल तर मुलगी देखील पणती आहे. मुलगी घरात असेल तर घरातील वातावरण आनंदी व प्रसन्न रहाते. घराला घरपण येते. मुलगी घरातील सर्व माणसांची काळजी घेते. तिला योग्य तो सन्मान द्या असा संदेश या कवितेतून मिळतो.

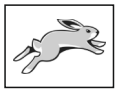
प्र.४. लेकीच्या / मुलीच्या निरागसपणाचे वर्णन आणि मुलीच्या घरातील अस्तित्वाचे महत्त्व हा या कवितेचा विषय आहे.

प्र.५. (१) रागावले – (अ) राव (ब) गारा
(२) पाकळी – (अ) पाक (ब) कळी

प्र.६. (१) कन्या, मुलगी (२) इच्छा
(३) हृदय (४) विश्व
(५) रजनी (६) तमा, चिंता

सूचना : Term Book मध्ये क्र. (६) येथे पर्वा ऐवजी पवा असे Type झाले आहे.

प्र.७. (१) चिमणे (२) लेकी
(३) पाकळ्या (४) हाडे
(५) घरे (६) भाषा

प्र.८.  वा! ससा किती जलद पळतोय.

 किती छान! मुलगी आहे.

 अरेरे! पायाला ठेच लागली वाटते.

खेळूया शब्दांशी

(अ) (१) मनाची – घराची (२) मिटते – पेटते
(३) उरास – उदास (४) हसते – बसते
(५) कळते – लागते

वाचा

- विद्यार्थ्यांनी स्वत: कृती करा.

भाषेची गंमत पाहूया

- (१) सर जाताना प्या ना ताजा रस
(२) काका वाचवा, काका.

तुम्हीही अशा प्रकारची वाक्ये तयार करून लिहा. पाहा कशी गंमत येते.

General Science

Topic 11 : Cell Structure and Micro-organisms

Q.1. (A) ***(1)** The organelle called the **cell wall** is present in plant cells only.

(2) **Mitochondria** is the powerhouse of the cell.

***(3)** Garbage is converted into **manure** by micro-organisms.

(4) The function of **golgi body** is the proper distribution of protein.

***(5)** In the cell, photosynthesis is carried out with the help of **chloroplast**.

***(6)** An electron microscope is necessary for the study of **viruses**.

(7) The components of the cell which carries out the life-processes of the living organisms are called **organelles**.

(8) **Eukaryotic** cells have a well defined membrane bound nucleus.

(9) The **nucleus** is the most important organelle of the cell.

(10) The **vacuoles** help to throw out waste products of the cell.

(11) A **vaccination** gives immunity against a particular disease.

(12) Farmwaste, human urine, faeces and wet garbage etc. are used in **bio-gas**.

(B) **(1)** Electron microscope magnifies the object two **billion** times.

(2) The **plasma membrane** is the outermost covering of animal cell.

(3) The **plant** cells carries out photosynthesis.

(4) The size of **paramoecium** is about 100 micrometres.

(5) The antibiotic **penicillin** destroys the germs of diptheria and pneumonia.

(C) (1)-(d), (2)-(c), (3)-(e), (4)-(b), (5)-(a)

(D) **(1)** True **(2)** False **(3)** False
(4) True **(5)** False

(E) **(1)** rice (others are fermented products)

(2) snail (others are micro-organisms)

(3) cell wall (others are present in plant cell and animal cell both)

(4) vacuole (others are various micro-organisms)

(5) virus (others have cell organelles and cytoplasm)

(F) **(1)** Algae **(2)** Nanometre
(3) Polygonal shape **(4)** Porous double membrane
(5) Nanometre

Q.2. (A) **(1)** **Nuclcoid :** In some organisms like bacteria, the nuclear region of the cell may be poorly defined due to the absence of a nuclear membrane. Such an undefined nuclear region containing only nucleic acids is called a nucleoid.

(2) **Vaccine :** Vaccine is a biological preparation that improves immunity to a particular disease. It is a substance containing a virus or bacterium in a form that is not harmful, given to a person or animal to prevent them from getting the disease.

(3) Ribosomes : Single walled dense, spherical bodies composed mainly of RNA. They are present in all active cells. They are either scattered in the cytoplasm or attached to the outside of endoplasmic reticulum. They are the sites where proteins are synthesized.

(4) Fermentation : The chemical process of conversion of one type of carbon compound into another type of carbon compound by the action of micro-organisms is called fermentation.

(5) Antibiotics : They are substances which are the type of proteins which our body produces to fight against disease-producing germs. They can control the spread of disease by killing specific micro-organisms.

(6) Immunity : The ability of the body to fight against diseases is called the immunity.

(B) (1)

	Plant cell		Animal cell
(i)	The cell wall is the outermost covering of the plant cell.	(i)	The cell membrane is the outermost covering of the animal cell.
(ii)	The cell wall is present in the plant cell.	(ii)	The cell wall is absent in animal cell.
(iii)	Vacuoles in plant cells are larger in size and more in number.	(iii)	Vacuoles in animal cell are smaller in size and fewer in number.
(iv)	Chlorophyll is present in plant cell.	(iv)	Chlorophyll is absent in animal cell.
(v)	Cytoplasm is not so dense.	(v)	Cytoplasm is denser and more granular.

(2)

	Prokaryotic cell		Eukaryotic cell
(i)	Cells present in prokaryotic organisms, do not have membrane bound organelles.	(i)	Cells present in eukaryotic organisms have well-defined membrane bound organelles.
(ii)	Prokaryotic cells are smaller in size ranging from 1 - 10 µm.	(ii)	Eukaryotic cells are comparatively larger in size ranging from 5 - 100 µm.
(iii)	They have one chromosome.	(iii)	They have more than one chromosome.
(iv)	They do not have well defined nucleus.	(iv)	They have well defined nucleus.
(v)	Membrane bound organelles such as mitochondria are absent in prokaryotic cell.	(v)	Membrane bound organelles such as mitochondria are present in eukaryotic cell.

(3)

	Cell wall		Cell membrane
(i)	Cell wall is found only in plant cells.	(i)	Cell membrane is found predominantly in all animal cells.
(ii)	It is the outermost covering of a plant cell.	(ii)	It is the outermost covering of an animal cell.
(iii)	Cell wall gives definite shape to the plant cell as it is rigid.	(iii)	Since cell memberane is not rigid it gives flexibility to the cells.
(iv)	It is made up of cellulose.	(iv)	It is made of proteins, fats etc.

(C) **(1)** The 'cell' being derived from Latin word 'cella', meaning 'small room' is the basic structural, functional and biological unit of all living organisms. It is the smallest unit of life that can replicate independently and cells are often called the 'building blocks of life'.

(2) The different organelles in a cell mainly include the nucleu, endoplasmic reticulum, cytoplasm, golgi bodies, lysosomes, mitochondria, vacuoles, plastids, ribosomes, etc. Cell wall and plastids are present in plant cells only.

(3) The organisms which cannot be seen with our eyes but can only be observed under a microscope are called microorganisms which may be single-cellular or multi-cellular. Algae, fungi, protozoa, bacteria and viruses are classified as micro-organisms.

(4) The different types of micro-organisms are classified as algae, fungi, protozoa, bacteria and viruses.

(5) The infants are vaccinated according to a fixed time schedule in order to maximize benefits for disease control and infant health. Immunization is done to protect children against diseases and build up their immunity against them. Since the immunity for some diseases wears away with time, a scheduled vaccination time period is recommended so that the child is protected against diseases such as polio, tetanus, diptheria, chickenpox, hepatitis, rubella, etc.

(6) The chemical process of conversion of one type of carbon compound into another type of carbon compound by the action of micro-organisms is called fermentation.

Louis Pasteur discovered the process of fermentation. The process of fermentation is used for making yoghurt from milk, producing alcohol from grains and fruits, bread from flour as well as in the production of acetic acid, citric acid, lactic acid, vitamins, antibiotics, etc.

(7) Each cell type has its own role to play in helping our bodies to work properly. Cells acquire definite shape according to the function they need to perform.

Cells are protected by cell wall in case of plants and cell membrane or plasma membrane in animal cells.

Cells form the basis of the structure and function of all living organisms. It is only with the help of cells that living organisms carry out all the different life processes.

(8) **(i)** Change in the colour of the food shows that the food is spoiled. E.g., red meat becomes darker in colour, while food like bread may become yellow, green.

(ii) One of the easy ways to tell that food has spoiled is by smelling. If it is spoilt, it will have unpleasant odour and colour. Odour may change due to mould, fungus and bacteria grown in food.

(iii) Watching its surface. When we see the food closer to the surface, it seems to have a slimy and sticky texture. It means bacteria have started multiplying on its surface and it is getting spoiled.

(9) While purchasing the food, packed food or tinned food, we must check the date on the label. E.g., for bread, milk, etc., check the 'use by' or 'best before' dates when you buy the food.

We must not eat canned or packaged foodstuffs whose expiry date is over, because canned foodstuffs have to consumed within a specific period of time. After this period is over harmful bacteria like clostridium start growing in it. These bacteria produce toxic substances, if consumed can cause diarrhoea and vomiting, and may lead to food poisoning. In order to prevent such hazards, the expiry date or the date which is printed on the food should be checked.

(10 Large quantity of food is prepared during marriage or other community functions. If the food prepared is left over for a long period or food is left uncovered in an unhygenic condition with house-flies sitting on it etc., the microbes like bacteria or disease-causing germs (pathogens) grow in the food. Sometimes water used in cooking the food is not filtered and is contaminated, staphylococcus bacteria are likely to grow in the foodstuffs and produce a poisonous substance like enterotoxin. Eating these foodstuffs causes diarrhoea and vomiting. Hence food poisoning incidents occur during marriage or other community functions.

(11) Yoghurt is mixed in the batter or dough for making rava-idli, bhature, naan as yoghurt contains lactobacillus bacteria. When these bacteria are allowed to grow in batter, they break down the substance producing new substances as they multiply in them. Hence in this process it acts on sugar of the flour and releases carbon dioxide gas, this gas makes the dough rise and when steamed or fried, the gas escapes leaving idli, bhature, naan soft and spongy.

(12) The materials like purses, wallets, belts, footwear are made of leather. These are made of organic substances of animal origin. During rainy season or moist conditions, micro-organisms like fungi grow on these leather articles and spoil the leather items or get frayed, hence leather articles like purses, wallets, belts, footwear need to be polished. Polishing keeps away moisture from coming in contact with leather. So, to protect the articles from fungal growth, they must be kept dry.

(13) In a humid atmosphere, micro-organisms like fungi in the form of powdery materials are found on old currency notes or old rubber or paper. Fungi grow quickly on organic substances which are made of plant products.

(14) Dry waste includes wood, paper, cardboard, etc. Wet waste includes plant leaves, agricultural waste, cow-dung, etc. The dry and wet wastes are collected separately in order to recycle dry waste easily and to use wet waste as compost. Dry waste is not easily decomposable and needs to be reused and recycled.

(D) **(1)** (i) After heavy rainfall and floods when the water recedes, the water and landscape can be contaminated with hazardous materials like debris, pesticides, fuels and untreated sewage.

(ii) This water can get contaminated. It may contain harmful and disease-causing viruses, bacteria, fungi or protozoa.

(iii) Infections such as diarrhoea and vomiting can be caused due to such contaminated water.

(iv) As flood water spreads, it causes infectious diseases.

(v) These can lead to outbreaks of diseases like typhoid, cholera, hepatitis and malaria, etc.

(2) (i) Moulds, yeasts and bacteria are some of the important micro-organisms which cause food spoilage or cause food to become stale.

(ii) When food is exposed to moist condition or air, it is contaminated by a number of microorganisms which start multiplying.

(iii) These micro-organisms use nutrients from the food. As a result, the nutritive value of the food decreases.

(iv) Micro-organisms also release certain toxic substances in the food owing to which it becomes unfit for consumption.

(v) The consumption of spoilt food or eating stale food leads to food poisoning which is hazardous to life.

(3) (i) When the land is ploughed deep, the soil is turned up.

(ii) This makes the soil suitable for growing crops.

(iii) Weeding becomes easier.

(iv) Loosening the soil exposes the germs and insects in it to the sun and thus kills them.

(v) Tilling also helps to aerate the soil.

(vi) This improves respiration of the plants and their roots grow stronger and deeper.

(vii) Thus in order to make the soil even and the land ready for sowing, the soil is turned over during tilling.

(4) (i) The mode of nutrition in fungi is saprophytic.

(ii) Saprophytic means utilising dead and decaying organic food and converting it into organic substances.

(iii) These plants cells do not contain chlorophyll.

(iv) They can grow quickly on any organic matter when the conditions are moist or if there is humidity in the air.

(5) (i) Food items such as milk, meat, fruits and vegetables are preserved by keeping them at low temperature in refrigerator.

(ii) Treatment of food to low temperature in the refrigerator retards chemical and enzymatic reactions and stops the growth and activity of micro-organisms which spoils food.

(iii) Hence, to preserve the food from getting spoilt or to prevent the activity of micro-organisms which contaminate milk, meat, fruits and vegetables, a refrigerator is used in almost every home.

(6) (i) Baking powder and baker's yeast (micro-organisms) is added in the preparation of bread.

(ii) Yeast is a micro-organism that brings about the process of fermentation.

(iii) When the bread is baked, sodium carbonate with the acid (tarteric acid) brings about chemical reaction.

(iv) Heat is generated in this process and carbon dioxide and some other gases are released.

(v) These gases cause an increase in the volume.

(vi) Because of these gases, bread swells or rises during baking.

(7) (i) Cattle are generally fed with fodder like oil cake, gram, jaggery, grain meal, cotton seed, etc.

(ii) The mixture of this fodder is soaked in water.

(iii) When the mixture is soaked in water, it brings about fermentation.

(iv) As it is fermented, the nutritive value of this mixture increases.

(v) This therefore becomes a good supplementary food for cattle which give milk.

(vi) The yield of milk increases due to such food.

(vii) Hence, fodder is soaked in water before offering to cattle.

(8) (i) Mitochondria produce energy from food materials within the cells.

(ii) Mitochondria oxidise carbohydrates and fats present in the cells, with the help of enzymes.

(iii) During this process, large amount of energy is released, which is used by the mitochondria to produce energy-rich compound (ATP).

(iv) Whenever required, this energy is supplied to the cell, therefore mitochondria are called the power houses of the cell.

Q.3. (A) (1) Uses of micro-organisms :

(1) Micro-organisms are used for various purposes.

(2) They are used in the preparation of curd, bread and cake.

(3) Lactobacillus bacteria promote the formation of curd.

(4) Yeast cells are used for the process of fermentation in the preparation of bread.

(5) Some bacteria (Rhizobium) live inside the nodules in the roots of leguminous plants like pea, bean, etc., perform the function of nitrogen fixation.

(6) Several bacteria in the soil carry out decomposition of dead and decaying matter, they in turn make humus from them. Fertility of the soil is thus increased due to bacteria.

(7) They are also used in cleaning up of the environment. For example, the organic waste (vegetable peels, remains of animals, faeces, etc.) are broken down into harmless and usable substances by bacteria.

(8) Micro-organisms are also used on a large scale, commercially for the production of alcohol, wine and acetic acid (vinegar). Yeast is used for commercial production of alcohol and wine.

The harmful effects of micro-organisms :

(1) Micro-organisms are harmful in many ways. These micro-organisms include bacteria, fungi, viruses and protozoa.

(2) Micro-organisms that cause diseases in human beings, animals and plants are called pathogens.

(3) Some micro-organisms like clustridium spoil food, some micro-organisms like fungispoil food, clothing and leather. Following table gives information about the harmful effects of micro-organisms causing diseases in plants and animals.

	Micro-organism	Diseases in Plants	Diseases in Animals
(1)	Protoza	Flagellated protozoa causes disease in phloem tissue, wilt of palm, heart root of coconut.	Malaria, dysentery, sleeping sickness.
(2)	Fungi	Leaf spot on rice, rust on wheat and ergot on bajra.	Ring worm, eczema.
(3)	Bacteria	(i) Wilt on tomato plant, cured by pseudomonas. (ii) Root rot disease by eruinia.	Typhoid, tuberculosis, cholera, etc.
(4)	Viruses	(i) Tobacco mosaic disease caused by tobacco mosaic virus. (ii) Yellow mosaic virus on lady's finger or okra.	Smallpox, measles, poliomyelitis.

Harmful effects of disease-producing micro-organisms in human beings :

Pathogens enter our body through the air we breathe, the water we drink or the food we eat. They can also get transmitted by direct contact with an infected person of carried through an animal. Microbial diseases can spread from an infected person to a healthy person. Through air, water or physical contact spread communicable diseases, examples of such diseases include cholera, common cold, chickenpox and tuberculosis.

(2) A Simple Microscope :

(1) A simple microscope is also called magnifying glass that consists of single convex lens for magnification of small focal length.

(2) It is generally used for seeing the magnified images of small objects. Usually fixed in a suitable frame with a handle or mounted on a stand. A maximum magnification about 20 times can be obtained by simple microscope.

(3) It is used by watch makers for observing small parts of the watch while cleaning or repairing. It is used by jewellers to examine precious stones to detect any flaws in them. It may also be used for reading small font. It is used by skin specialists to detect various diseases of skin.

A Compound Microscope :

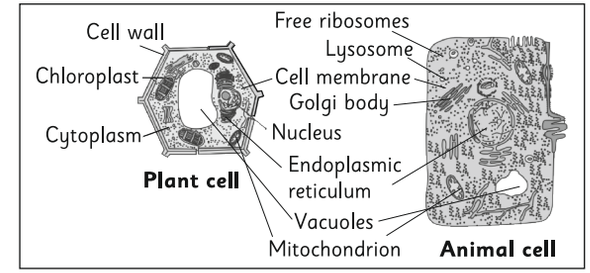
(1) A combination of 2 convex lenses having short focal lengths is used in compound microscope.

(2) Our eyes cannot perceive an object having a size less then 100 micrometre.

(3) Generally the size of micro-organisms is less than 100 micrometre.

(4) With proper combination of an objective and eye piece, a magnification (40 - 1000X) can be achieved by a compound microscope. Thus it can be used to observe bacteria, viruses, cells, micro-organisms, blood corpuscles, plant and animal cells, etc.

(3)



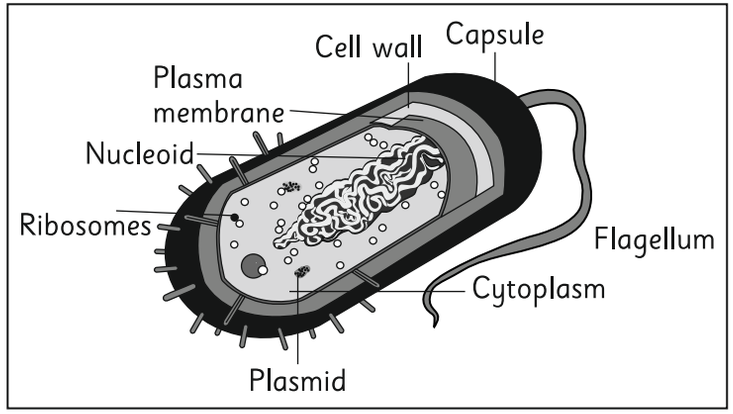
	Parts of the cell	Structure	Occurrence/ Function	Location
(1)	Cell wall	Outermost covering of a cell. Mainly composed of cellulose.	Plant cells only	(1) Gives rigidity and shape to the plant cell. (2) Provides protection.
(2)	Cytoplasm	Semi-fluid substance with water soluble organic and inorganic substances. It is present around the nucleus.	Plant cell and animal cell.	(1) Cell organelles are scattered in the cytoplasm. (2) Cellular chemical reactions take place in cytoplasm. It also aids in metabolic activities of the cell.

(3)	Cell membrane or Plasma membrane	(1) Outermost covering in animal cell. (2) Extremely thin, delicate and flexible membrane.	Plant and animal cells.	(1) Maintains shape of the animal cell. (2) Regulates entry and exit of substances in and out of the cells.
(4)	Golgi bodies	(1) Made up of several flat sacs. (2) Consist of tubular vesicles and vacuoles.	Plant and animal cells.	(1) Secretion of hormones and enzymes. (2) Proper distribution of proteins.
(5)	Nucleus	(1) Mostly spherical and dense. (2) There is a porous double membrane around it. (3) Contains network of thread-like structures called chromatin fibre which contains DNA.	Plant and animal cells.	(1) Regulates cell functions or control all functions of the cell. (2) Contains chromosomes (bearers of genes that control hereditary characters)

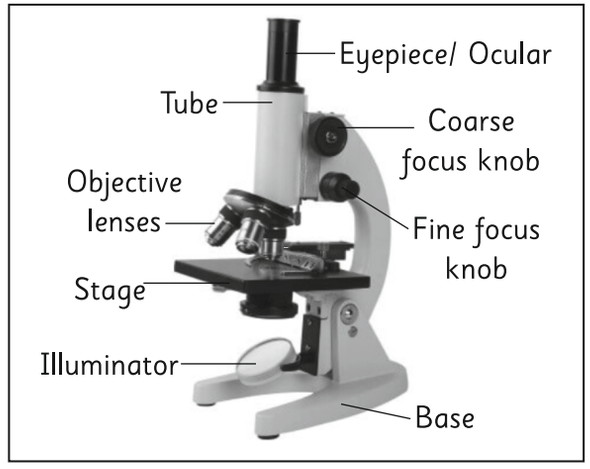
(6)	Endoplasmic reticulum	(1) Sprawling network of tubular double membrane. (2) May be smooth or rough (attached ribosomes)	Plant and animal cells.	To make necessary changes in protein produced by ribosomes and send them to the golgi bodies.
(7)	Mitochondria	(1) Double walled, inner wall thrown into folds. (2) Have their own DNA, contains ribosomes.	Plant and animal cells.	Release or produce energy and synthesize respiratory enzymes.
(8)	Plastids	Double walled structure contains DNA.	Found only in plant cells	(1) Chloroplast : Photosynthesis. (2) Chromoplast: Imparts colour to fruits and flowers. (3) Leucoplast : Stores starch, lipids and protein.

(9)	Vacuoles	Fluid filled spaces enclosed by membrane.	Generally present in plant cell. Present in animal cells, it is small and temporary.	(1) It helps to throw out waste products of the cells. (2) Gives turgidity to the cell.

Q.3. (B) **(1)** Prokaryotic cell



(2) Compound microscope



Topic 12 : The Muscular System and Digestive System in Human Beings

Q.1. (A) **(1)** **Muscles** are bundles of fibres that can contract and relax as required.

(2) Muscles are firmly attached to bones by means of **tendons**.

(3) Muscles contribute almost **40%** to the weight of a healthy adult human body.

(4) The **involuntary** muscles do not depend upon ones will.

(5) The **smooth** muscles are present in the internal organs other than the heart.

(6) The movement in cardiac muscles is **involuntary**.

(B) ***(1)** The process of digestion starts from the **mouth**.

***(2)** Eyelids have **voluntary** muscles.

***(3)** **Production of blood cells** is not a function of the muscular system.

***(4)** Muscles of the heart are **cardiac muscles**.

***(5)** Pushing forward the food that has been chewed is the function of the **oesophagus**.

(6) Muscles of the stomach are **smooth**.

(7) Enzymes formed in the mouth is known as **amylase**.

(8) Mechanical breakdown of food is due to **chewing**.

(9) Partly digested food (in liquid form) goes into the **small intestine** after it leaves the stomach.

(10) There are **more than 600** muscles in the human body.

(C) **(1)** Anus **(2)** Bile juice **(3)** Uniceps
(4) Heart **(5)** Lipase

Teachers Note : Kindly ask children to change the (C) (5) question as given below as there is a spelling error.

(5) Hydrochloric acid, Lipase, Pepsin, Mucus.

(D) (1)-(b), (2)-(d), (3)-(e), (4)-(c), (5)-(a).

(E)

(1)	Tongue	My taste buds can tell only a sweet taste.	☑
(2)	Liver	I am the largest gland in the body.	
(3)	Large intestine	I am 7.5 metre long.	☑
(4)	Appendix	Digestion is impossible without me.	☑
(5)	Lungs	I play an important role in excretion.	☑
(6)	Stomach	I digest only fats and carbohydrates.	☑
(7)	Oesophagus	I push the food towards the stomach.	
(8)	Anus	I do the major work of throwing undigested material out of the body.	

(F) **(1)** Salivary glands, liver, pancreas, gastric glands

(2) Trypsin, lipase, amylase **(3)** Smooth muscles

(4) Skeletal muscles **(5)** Voluntary muscles

(G) **(1)** Pepsin **(2)** Involuntary **(3)** Enzyme

(4) Biceps **(5)** 1.5 m long

Q.2. (A) (1)

	Voluntary muscles		**Involuntary muscles**
(i)	Their cells are long and cylindrical.	**(i)**	Their cells are small and spindle shaped.
(ii)	They have multinucleated cells.	**(ii)**	They have uninucleate cells.
(iii)	They are under our will or control.	**(iii)**	They are not under our will or control.
(iv)	They show stripes or striations.	**(iv)**	They lack striations.

(2)

	Biceps		**Triceps**
(i)	They are located on the front of the bone in our upper arm.	**(i)**	They are located on the back of the bone in our upper arm.
(ii)	Biceps are the muscles responsible for the pulling action.	**(ii)**	Triceps are the muscles we exert for pushing action.
(iii)	The biceps are made up of 2 muscle bundles (namely - long head, short head).	**(iii)**	Triceps are made up of 3 muscle bundles (namely - lateral head, long head and medial head).

(3)

	Small Intestine		**Large Intestine**
(i)	It is about 6 m long.	**(i)**	It is about 1.5 m long.
(ii)	It absorbs the digested nutrients.	**(ii)**	It takes part in absorption of water from the undigested remains of food.
(iii)	Most of the digestion takes place in small intestine.	**(iii)**	It has no role in digestion.
(iv)	It secretes a number of digestive juices.	**(iv)**	It does not secrete any digestive juice.

(B) **(1)** There are 3 types of muscles in the human body. They are skeletal muscles, cardiac muscles and smooth muscles.

(2) **Acidity :** Acidity is the term used for set of symptoms caused by increased production of acid by the gastric glands of stomach and when there is no food present to be digested.

Causes of the problem of acidity are :

(1) Diet - Increased consumption of spicy food and oily food.

(2) Irregular meals, like not having meals regularly at a particular time, result in the accumulation of secreted acid in the stomach.

(3) Stress.

(4) Alcohol consumption.

(5) Lack of physical activity.

(6) Indigestion.

(7) Constipation.

Effects of acidity on the human body :

(1) Over production of acid may affect teeth, muscles, joints, various organs and organ systems.

(2) Bloating (3) Burping (4) Digestion is impaired (5) Flatulence (6) Heart burn (7) Decrease in normal appetite (8) Headache, weakness and fatigue (9) Cardiovascular problems (10) Kidney or liver disease (11) Osteoporosis (12) Dysphagia, etc.

(3)

	Types of teeth	Functions
(1)	Incisors	They are eight teeth in the front and centre of mouth (4 on top and 4 on bottom). **Function :** Used for cutting the food or biting the food (like pair of scissors).

(2)	Canines	They are four teeth relatively large, long pointed and sharp. 2 in upper jaw and 2 in lower jaw. **Function :** Grasping, ripping and tearing the food apart.
(3)	Molars	There are three molars, which are large, flat and located at the back of the mouth. **Function :** They are primarily used for chewing and grinding the food.
(4)	Premolars	There are eight premolars located between canines and molar teeth. **Function :** These teeth are used for chewing and grinding food so that it converts to a totally semi-liquid form, helping to gulp food particles down the throat and digest them smoothly.

(4) Muscles are bundles of fibres that can contract and relax when required.

Bones don't work alone. They need help from muscles and joints. Muscles are firmly attached to bones by means of tough, cord like tissues called tendons, which allow the muscles to pull the bones. When muscles contract, there is a movement at the joint and the bones move either nearer to or away from each other.

(5) (a) The person is suffering from acidity.

(b) The stomach of the person produces dilute acids which help in digestion of food that he eats. When the production of acid is more than the required amount, the person suffers from acidity, which causes burning sensation of the stomach.

(c) The following substances can be used as remedy :

(1) Sodium bicarbonate

(2) Lime water mixed with butter.

(3) Jaggery (4) Cold milk.

(6) An organ system is a group of organs that work together to perform one or more functions. The bones in our body are joined to each other by tendons.

Q.3. (1) (i) Gastric glands are present on the walls of the stomach.

(ii) They secrete gastric juices which contain an enzyme pepsin, dilute hydrochloric acid and mucus.

(iii) The hydrochloric acid is needed to activate the enzyme as it needs acidic environment in order to digest protein.

(iv) Enzyme pepsin digests proteins in acidic medium only. Hence, in order to digest the protein and also to help in killing the microbes, and other disease-causing pathogens which enter the stomach through food and water, food becomes acidic in the stomach.

(2) (i) Various processes like blood circulation, breathing, etc., are vital functions.

(ii) They do not depend upon our will.

(iii) The muscles of heart carry out functions such as pumping blood throughout the body by the contraction and relaxation of the heart.

(iv) These movements are involuntary.

(v) Hence, cardiac muscles are said to be involuntary muscles.

(3) (i) Intoxicating substances like tobacco, alcohol, cigarettes if consumed for long time, affect the

various parts of the organs and can lead to dysfunctioning of the system.

(ii) Chewing of tobacco for a long time causes its particles to stick the teeth, gums and skin of the mouth cavity and slowly causes injury to these parts resulting in their dysfunction.

(iii) Mouth, pharynx, intestine become infected and can cause cancer leading to death.

(iv) Consumption of alcohol causes problems like vomiting, nausea and headache, liver damage, kidney failure, etc.

(v) Smoking of cigarette increases the risk of stroke, heart attack, peptic cancer, lung cancer, pancreatitis, etc.

(vi) Hence, to prevent organs from getting damaged and smooth, efficient, optimum functioning of system, intoxicating substances should not be consumed.

(4) Muscles in our body always work in groups. When some muscles contract, other muscles of the same group relax. Hence, muscles should be strong and efficient for the proper performance of various functions of the body.

Q.4. (1) When we eat the food, it is broken down into very small molecules, proteins, carbohydrates, fats, etc., only then can the body absorb the molecules and process them through the blood, liver and the entire digestive system.

(2) When we sit with the back hunched or bent, gradually, changes occur in the structure of the vertebrae. Muscles in the shoulder and back begin to hurt. Disorders of the vertebral column may also arise.

(3) During exercise, movements of the heart muscles become more rapid, breathing, becomes faster, ensuring a

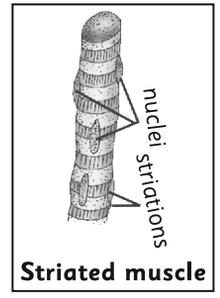
sufficient supply of oxygen and nutrients to various parts of the body.

(4) Cardiac muscles are involuntary muscles found in the walls of the heart. When the cardiac muscles do not move, the muscles cannot bring about contraction and relaxation (beating) of the heart and also blood cannot be pumped throughout the body. Hence, it can be fatal.

(5) Function of the stomach is to churn the food, help in the process of digestion. Churning of the food takes place by contraction and relaxation of stomach muscles. If food enters the stomach and the stomach muscles do not move, churning of food will not take place and it will also affect the process of digestion.

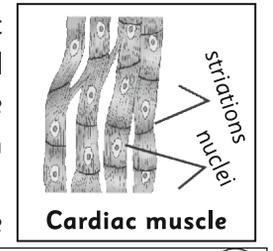
Q.5. (1) The three types of muscles are (1) Skeletal muscles (2) Cardiac muscles (heart) and (3) Smooth muscles.

(1) Skeletal Muscles : Skeletal muscles are long, cylindrical with blunt ends. Most skeletal muscles are attached to bones by bundles of collagen fibres so they are also known as tendons. There is a presence of dark and light bands on the skeletal muscles called as striated muscles. Their movements are voluntary. They are responsible for holding the bones of the skeleton together and giving shape to our body. They are found in limbs, tongue, pharynx, etc.



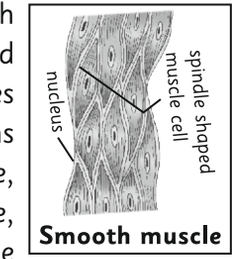
Striated muscle

(2) Cardiac Muscles : Cardiac muscles are short, cylindrical with flat ends. Bands are present in them. They form mycocardium of the heart. These muscles bring about the contraction and relaxation (beating) of the heart. Their movement is involuntary. Cardiac muscles of the heart are responsible for contraction that pumps blood throughout the body. Cardiac muscles cause our heart to relax and contract continuously at a rate of about 70 times per minute.



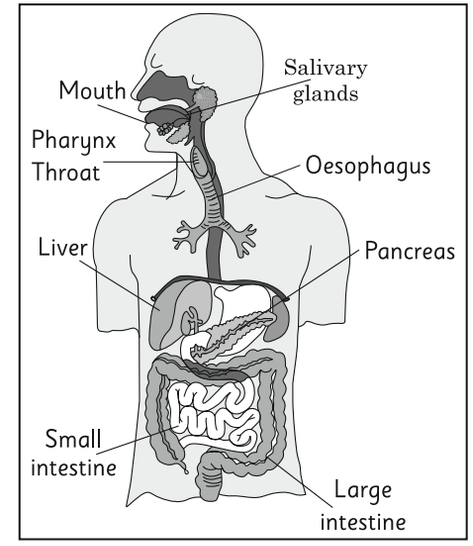
Cardiac muscle

(3) Smooth Muscles : Smooth muscles are short, spindle shaped with pointed ends. These muscles are present in the internal organs other than the heart. For example, muscles of the stomach, intestine, blood vessels, etc. They are involuntary. They contract slowly for long period and do not get fatigued. Various vital functions are carried out by these special muscles.



Smooth muscle

(2) The human digestive system consists of alimentary canal beginning with mouth, long muscular tube oesophagus, stomach, small intestine and large intestine. It also consists of associated digestive glands.



(1) Mouth :

(i) In the mouth, food is chewed with the help of teeth. This helps in breaking the large food particles into smaller ones.

(ii) Crushed food is mixed with saliva secreted by salivary glands. The enzyme ptyaline present in the saliva converts starch molecules into simple sugar maltose.

(iii) Thus, digestion starts in the mouth.

(2) Oesophagus :

(i) It is a large muscular tube connecting the mouth and the stomach.

(ii) It carries the partly digested food into the stomach.

(3) Stomach :

(i) It is a large sac-like muscular organ.

(ii) In stomach, food is churned and thoroughly mixed with gastric juice.

(iii) The gastric juice is secreted by gastric glands. There are three components of gastric juice, namely enzyme pepsin, mucus and hydrochloric acid.

(iv) Hydrochloric acid makes the medium in the stomach acidic, necessary for the actions of the enzyme pepsin.

(v) Enzyme pepsin digests the proteins in acidic medium.

(vi) Mucus is a protective substance, which protects the inner lining of the stomach from the action of hydrochloric acid.

(vii) Thus, food becomes a semi-solid slurry which is pushed into the small intestine by action of the sphincter muscles located at the lower end of the stomach.

(4) Small Intestine :

(i) The small intestine is about 6 m long. Most of the digestion is completed in the small intestine.

(ii) These actions take place in an alkaline medium. The bile from the liver, the pancreatic juice from gall bladder and intestinal juice from the intestinal glands present in the walls of the small intestine get mixed with the food.

(iii) The bile is stored in gall bladder and then poured in the small intestine to make the food alkaline. The pancreatic juice has 3 enzymes, i.e. pancreatic amylase for the digestion of carbohydrate, lipase for digestion of fats and trypsin for the digestion of proteins. The intestinal glands produce intestinal juice which completes the process of digestion.

(iv) The proteins are converted into amino acids, the fats are converted into fatty acids and glycerol and carbohydrates to glucose.

(v) Thus, after the process of digestion is completed, absorption of food takes place in the small intestine.

(5) Large Intestine :

(i) It is about 1.5 m long. Absorption of water and salts takes place in the large intestine.

(ii) Undigested remains of the food digested in the small intestine enter the large intestine.

(iii) Large intestine does not have any digestive function.

(6) Anus :

(i) It is the opening of alimentary canal to the outside.

(ii) Undigested material is thrown out of the body through anus.

Topic 13 : Changes - Physical and Chemical

Q.1. (A) **(1)** Changes in which only **physical** properties of a substances change are called physical changes.

(2) Changes in which new substances are formed are called **chemical** changes.

(3) Two methods by which rusting of iron can be prevented are **galvanization** and **tinning**.

(4) **Periodic** changes occur again and again after a definite interval of time.

(5) In **tinning** method copper and brass articles are coated with tin.

(6) The process of coating a thin layer of zinc on iron or steel is called **galvanization**.

(7) **Corrosion** is caused by oxygen, moisture, vapours of chemicals in the air.

(8) Changes that takes place in **short** period of time are called fast changes.

(9) The process of formation of vapour from a liquid is called **evaporation**.

(B) **(1)** For protecting iron pipes from corrosion they are coated with **zinc**.

(2) The process of formation of vapour from a liquid is called **evaporation**.

(3) Brown colour of the apple after cutting is a **chemical change**.

(4) Physical changes are **reversible**.

(5) Which of the following is a physical change? **Heating of iron**.

(6) Which of the following is a non-periodic change? **Earthquake**.

(7) Fast change is **bursting of balloon**.

(8) Which of the following is a periodic change? **Changing of seasons**.

(C) **(1)** Irreversible change, useful change, chemical change.

(2) Irreversible change, undesirable change, harmful change, chemical change

(3) Non-periodic change, harmful change.

(4) Periodic change, physical change.

(5) Reversible change, useful change, physical change.

(6) Natural change, non-periodic change, harmful change.

(7) Irreversible change, chemical change.

(8) Physical change, man-made change.

(9) Irreversible change, natural change, chemical change.

(10) Irreversible change, chemical change.

(11) Reversible change, physical change.

(12) Irreversible change, man-made change, chemical change.

(D) **(1)** False **(2)** False

(3) True **(4)** True

(E) (1)-(d), (2)-(c), (3)-(b), (4)-(a)

(F) **(1)** Burning **(2)** Freezing

(3) Changing of seasons **(4)** Rusting

Q.2. **(1)** **Periodic change :** The change that occur again and again after a definite interval of time are called periodic change.

(2) **Non-periodic change :** The changes which cannot be said for sure will occur again after a definite interval of time. Even if they occur, the time interval is not fixed. Such changes are called non-periodic changes.

(3) **Fast / Quick change :** The changes that take place in short period of time are called fast / quick changes.

(4) **Slow change :** The changes that take place over a long period of time are called slow changes.

(5) **Man-made change :** Changes that occur as a result of human activity or created by human are called man-made change.

(B) (1)

	Physical change		**Chemical change**
(i)	Composition of substance remains same.	**(i)**	Composition of substance changes.
(ii)	No new substances are formed.	**(ii)**	New substances are formed.
(iii)	Chemical properties of substance remain same.	**(iii)**	Chemical properties of substances undergo change.
(iv)	Physical changes are reversible.	**(iv)**	Chemical changes are irreversible.

(2)

	Periodic change		**Non-periodic change**
(i)	Changes that occur again and again after a definite interval of time are called periodic changes.	**(i)**	Changes that do not occur again and again after a definite interval of time are called non-periodic changes.
(ii)	Examples of periodic change : a. Occurrence of day and night. b. Changing of seasons, etc.	**(ii)**	Examples of periodic change : a. Earthquake. b. Volcanic eruption, etc.

(3)

	Natural change		**Man-made change**
(i)	Changes that occur naturally or that have occurred of their own accord are called natural changes.	**(i)**	Changes that occur as a result of human activity or created by humans are called man-made changes.
(ii)	Ripening of fruit, rainfall, spoiling of milk are the examples of natural change.	**(ii)**	Water pollution, deforestation, burning of fossil fuels that have a global impact and disturb natural balance are examples of man-made changes.

(C) (1) Canned foodstuffs have to be used within a specific period. After the period is over, harmful bacteria like clostridium may start growing after their date of expiry. These bacteria produce toxic substances as they grow in food stuffs. If such foodstuffs are eaten, they may cause diarrhoea, vomiting, etc. So in order to avoid food poisoning or any health hazards, while purchasing canned food, its expiry date should be checked.

(2) When an iron article rusts, a reddish brown layer is formed on it due to corrosion. The corrosion is caused by oxygen, moisture, vapours of chemicals in air. But when iron articles are coated with a paint, it will not allow moisture or oxygen, vapours of chemicals in air to come in contact with the iron surface. Hence, to prevent the iron articles from getting rusted, they should be given a coat of paint.

(3) When wooden articles are exposed to air, moisture or direct sunlight for long period, they will wear out or fade away and sometimes due to prolonged use, they form

cracks. Sometimes due to moisture in rainy season, mould may grow on the surface of wooden articles and damage the wood. By polishing the wooden articles, we can protect the surface from moisture, air and also increase its resistance to moisture. Thus, to prevent the wooden articles from getting damaged they should be polished.

(4) The process of coating a thin layer of tin (molten tin) on copper and brass is called tinning. Cooking utensils made of copper and brass get a greenish coating due to corrosion. The greenish substance is copper carbonate and it is poisonous. Therefore, copper and brass utensils are tinned to prevent corrosion.

(5) A dry handkerchief gets wet at once when dipped in water because it readily absorbs the water through the pores in it as a result of capillary action. This change takes place in short period of time Hence, wetting of handkerchief is a quick change. But when the handkerchief becomes wet, it takes a long period of time to dry it. As drying of handkerchief is due to evaporation of water from its surface which is a slow process, a dry handkerchief gets wet at once on dipping in water, but it takes long for a wet handkerchief to dry.

Q.3. (A) **(1)** When a candle burns, both physical and chemical changes take place.

Physical change - Melting of wax.

Chemical change - Burning of wax.

Eating food is another example where physical and chemical changes occur simultaneously.

Physical change - Breaking down of larger food particles into small particles.

Chemical change - Digestion of food.

(2) When wood is burnt a new substance - ash is formed. Therefore it is a chemical change. However when we cut wood only the shape and size of the wood are changed. No new substance is formed, therefore it is a physical change.

(3) When sugar is placed in an evaporating dish and heated on a flame, we observe that the molecules in heated sugar break down and produce several different compounds. Its colour changes, white to blackish substance is seen at the bottom of evaporating dish and its sweet taste is replaced by a more bitter flavour.

The kind of change the above process brings about is a chemical change.

(4) Corrosion is degradation or destruction of metal due to its reaction with oxygen, moisture, vapours of chemicals in the air. When an iron article rusts, a reddish brown layer is formed on it. A greenish layer is seen to form on copper article. This process is called corrosion of metal.

Corrosion is caused by oxygen, moisture, vapour of chemicals in the air.

(5) Different methods to prevent corrosion of metals are :

(i) **Galvanization :** Iron articles are given a thin coat of zinc to prevent corrosion. This coating of zinc on iron articles is called galvanization.

(ii) **Tinning :** Copper and brass articles are coated with thin coating of tin. This process is called tinning.

(iii) **Coating :** A layer of oil or paint or grease is applied on the surface of a metal to prevent corrosion.

(iv) **Electroplating**, **anodising** and **alloying** are the other methods to prevent corrosion of metals.

(6) The kind of change seen in the falling of tree in a storm is a natural change.

(7) The kind of change seen in the conversion of milk into yogurt is a chemical change.

(8) (a) **Fast change :** Changes that take place in short period of time are called fast changes.

Examples : burning of paper, bursting of crackers, glowing of bulb, etc.

(b) **Slow change :** Changes that take place over a long period of time are called slow changes.

Examples : Germination of seed from a plant, digestion of food, the growth of child into adult, rusting of iron, etc.

(9) An irreversible change is a type of change that cannot be reversed and is a permanent change.

Examples : (i) Ripening of mango. (ii) Burning of wood to obtain ash. (iii) Conversion of milk into curd. (iv) Digestion of food.

(10)

Physical change	Chemical change
Making a table from wood	Burning of wood
Breaking of a glass object	Ripening of a tomato
Heating of platinum wire	Rusting of iron

(B) **(1)** The following characteristics / properties are taken into account while identifying (a) A physical change in a substance and (b) A chemical change in a substance.

(a) Physical change in a substance :

(i) The substance which has undergone a physical change can be recovered by easy means.

(ii) No new substance is formed.

(iii) Physical properties such as colour, size and state of the original substance may change.

(iv) A physical change is temporary.

(v) In this, heat may or may not be released or absorbed.

(b) Chemical change in a substance :

(i) The substance which has undergone a chemical change cannot be recovered by easy means.

(ii) A new substance or substances are formed having different properties than the original.

(iii) Physical properties and chemical properties undergo a change.

(iv) A chemical change is permanent.

(v) The heat may be released or absorbed.

(2) It was nearing six o' clock in the evening (Periodic change). The sun was setting (Periodic change). A breeze was blowing (Natural change). Leaves on the tree were shaking (Natural change). Sahil was sitting in the courtyard, rolling balls of wet soil and shaping them into various toys (Man-made change, Physical change, Reversible change). Then he felt hungry and went into the house (Natural change). Mother made a dough from wheat flour and fried pooris (Chemical change, Irreversible change). While eating hot pooris, his attention was drawn outside the window. It had started raining (Natural change, Physical change). There was lightning, too (Natural change, Chemical change). Sahil

was enjoying his dinner in the dim light (Man-made change, Physical change).

Q.4. (1) (i) In the first picture we observe the milk has changed into curd. It is a chemical change and an irreversible change.

(ii) In the second picture we observe the ice melting. It is a physical and reversible change.

(iii) In the third picture we observe the germination of a seed. The kind of change is chemical change and irreversible change.

(iv) In the fourth picture we observe that from the flower pot cracker sparkles emitting out from the chemicals stored in it. The kind of change is chemical change and irreversible change.

(v) In the fifth picture we observe the liquid is boiling in a sauce pan and getting converted into water vapour. the kind of change is physical change and reversible change.

(vi) In the sixth picture we observe the logs of wood burning, giving out the flames. The kind of change is chemical change and irreversible change.

(vii) In the seventh picture we observe the bursting of crackers. The kind of change is chemical change and irreversible change.

(2) (i) Change shown in picture (C) is temporary.

(ii) The changes shown in pictures (A) and (B) are permanent.

(ii) The changes shown in pictures (A) and (B), the original matter has undergone change.

(iv) The original matter in the pictures (C) and (D) remains unchanged.

(v) The changes shown in picture (A) and (B) show new substances, with a new property formed.

Topic 14 : Elements, Compounds and Mixtures

Q.1. (A) **(1)** Each and every substance is made up of **matter**.

(2) Matter is composed of tiny **particles**.

(3) Matter which is made of only one constituent is called **substance**.

(4) By the **decomposition** of an element, we do not get different substance.

(5) In the Greek language atom means **indivisible**.

(6) The molecular formula of carbon dioxide is **CO_2**.

(7) 2 atoms of oxygen are joined to form a **molecule** of oxygen.

(8) The chemical symbol of potassium is **K**.

(B) **(1)** Naturally occurring elements are **92**.

(2) Symbol of tungsten is **'W'**.

(3) Which of the following is an element by NOT a metal **oxygen**.

(4) Which of the following is a metal **iron**.

(5) Which one of the following substances is not a mixture **water**.

(6) **Aurum** is the Latin name from which gold is derived.

(C) **(1)** (1)-(e), (2)-(f), (3)-(c), (4)-(b), (5)-(a), (6)-(d)

(2) (1)-(d), (2)-(c), (3)-(b), (4)-(a)

(D)

Element	Solid/liquid/gas	Metal/non-metal/metalloid
(1) Sodium	solid	metal
(2) Oxygen	gas	non-metal
(3) Arsenic	solid	metalloid
(4) Bromine	liquid	non-metal

(E) **(1)** Selenium **(2)** Brass **(3)** Water
(4) Silver **(5)** Carbon

(F) **(1)** False **(2)** False **(3)** False
(4) True **(5)** False

(G) **(1)** Copper **(2)** Distillation **(3)** Oxygen

Q.2. (A) **(1)** **Substance :** A substance is matter made of only one constituent which has specific composition and properties.

(2) **Element :** A substance whose molecules are made of one or more atoms which are exactly alike, is called an element.

(3) **Atom :** The smallest particle of an element that can exist either alone or in combination.

(4) **Molecule :** A molecule is the smallest particle in a chemical element or compound that has the chemical properties of that element or compound.

(5) **Compound :** Compound is a substance formed by the chemical combination of two or more elements in a fixed proportion.

(B) **(1)**

	Metals		**Non-metals**
(i)	Metals have lustre.	**(i)**	Non-metals lack lustre.
(ii)	Metals are malleable.	**(ii)**	Non-metals are not malleable.
(iii)	Metals are ductile.	**(iii)**	Non-metals are not ductile.
(iv)	Metals are good conductors of heat and electricity.	**(iv)**	Non-metals are poor conductors of heat and electricity.
(v)	At room temperature, metals are in the solid state (Exception: Mercury is in liquid state.)	**(v)**	At room temperature, non-metals are in the liquid or gaseous state (Exception carbon, sulphur are solids)
(vi)	Generally metals have high density.	**(vi)**	Non-metals have lower densities in the solid state.

(2)

	Mixtures		**Compounds**
(i)	A mixture is formed by mixing different elements or compounds.	**(i)**	A substance formed by a chemical combination of two or more elements is a compound.
(ii)	The proportion of various components in a mixture is not fixed.	**(ii)**	The proportion of various components in a compound is always fixed.
(iii)	No chemical change takes place during the formulation of mixture.	**(iii)**	There is always a chemical change that takes place during the formation of compound.
(iv)	No new substance is formed as constituents do not react chemically.	**(iv)**	A new substance is formed due to chemical reaction.
(v)	The constituents can be separated easily by physical method.	**(v)**	The constituents can be separated only by chemical or electro chemical processes or reactions.

(3)

	Atoms		Molecules
(i)	It is the smallest particle of a chemical element.	(i)	It is the smallest particle in a chemical element or compound that has chemical properties of element or compound.
(ii)	It may or may not exist in free state.	(ii)	It exists in free state.
(iii)	Atoms are indivisible.	(iii)	It is divisible into individual atoms.
(iv)	It takes part in chemical reaction.	(iv)	It does not takes part in chemical reaction.

(4)

	Metals		Metalloids
(i)	The properties of metals are altogether different from those of non-metals.	(i)	Metalloids shows the properties of both metals and non-metals.
(ii)	Gold, silver and iron are the examples of metals.	(ii)	Arsenic, germanium, silicon are the examples of metalloids.

(5)

	Separation by Distillation		Separation by Separating Funnel
(i)	This method of separation is used for separating for separating a mixture containing two miscible liquids.	(i)	This method of separation is used for separating a mixture containing two immiscible liquids.
(ii)	It will separate the two miscible liquids by boiling without decomposition and having sufficient difference in their boiling points.	(ii)	It will separate the two immiscible liquids into two distinct layers depending on their densities.
(iii)	A solution of common salt in water or potassium paramanganate in water can be separated by distillation.	(iii)	Kerosene and water can be separated by separating funnel.

Q.3. (A) (1) Buttermilk is a mixture of residual fat, proteins, sugar and minerals. The particles of buttermilk do not settle when left undisturbed. This is because the particles in it are very tiny and light and remain evenly distributed in the liquid. These particles cannot be separated from the buttermilk even by the methods like filtration or settling. But when the buttermilk is churned, a force is generated which pushes the particles away from the centre. As a result, the solid particles i.e., the butter separates out from the buttermilk. Butter being lighter rises up and settles over the buttermilk. Hence, buttermilk is churned to get butter.

(2) In the method of separation of components from a mixture by chromatography, two properties of substances are taken into consideration. These are the solubility of the substance in the solvent that moves up and the ability of the substance to stick to the stationary filter paper. Since, these properties are mutually opposite and different for different substances, all the ingredients of a mixture do not rise all the way to the upper end of the filter paper

but remain behind at different heights, when solvent i.e., water rises up to the upper end of the paper.

(3) When a wet cloth is wrapped around a storage container like an earthen pot during summer, due to the heat, the water from the wet cloth evaporates and the cloth becomes dry. Earthen pot being porous, the outside heat draws out the water from it, which is taken up by the dry cloth and makes it wet. As this cycle of wetting and drying of the cloth continues, the water in the storage container remains cool. Hence, in order to keep the water in the storage tank cool, a wet cloth is wrapped around it in summer.

(4) Soil is made up of sand, salts, pebbles, rock, clay, air, humus etc. The proportion of the constituents of soil varies from place to place. The constituents of soil retain their individual properties. The constituents of soil can be easily separated by physical means. Formation of soil does not involve any chemical reaction. Hence, soil is a mixture.

(5) Table salt is a compound of sodium and chlorine. Sodium and chlorine in their elemental forms are highly reactive and poisonous. But the properties of table salt (sodium chloride) are completely different from the properties of the constituent elements from which it is formed. Hence, we can eat table salt in the diet without getting poisoned.

Q.3. (B) (1)

Symbol	Name of the element
Zn	Zinc
Cd	Cadmium
Xe	Xenon
Br	Bromine
Ti	Titanium
Cu	Copper
Fe	Iron
Si	Silicon
Ir	Iridium
Pt	Platinum

(2)

	Compound	Molecular formula
(1)	Hydrochloric acid	HCl
(2)	Sulphuric acid	H_2SO_4
(3)	Sodium chloride	NaCl
(4)	Glucose	$C_6H_{12}O_6$
(5)	Methane	CH_4

(3)

Elements	Compounds	Mixtures
iron	water	soil
copper	thermocol	coal
	rubber	paper
	plastic	coir

(4) There are three states of matter - solid, liquid and gas. (Note : Two more states are known, they are plasma and Bose-Einstein condensate.)

(5) The properties of matter are :

(i) Matter is made up of tiny particles.

(ii) Matter has mass and volume. It occupies space.

(iii) Heat or change in temperature bring about change of state of matter.

(6) Objects are made of wood, glass, plastic, metal, iron, etc.

Sr. No.	Article	Made of
(1)	Electric wire	Copper or aluminium
(2)	Kitchen utensils	Stainless steel, brass, iron, glass, copper, aluminium
(3)	Nails	Iron
(4)	Tables and chairs	Wood, plastic, cast iron
(5)	Window panes	Glass (soda lime or silica glass)
(6)	Soil	Stone, clay, humus, pebbles, sand, rock, silt, etc.
(7)	Salt	Sodium chloride
(8)	Sugar	Carbon, oxygen, hydrogen

(7) (i) Air contains 78.09% of nitrogen, 20.95% of oxygen, 0.93% argon, 0.04% carbon dioxide and small amounts of other gases. It also contains variable amounts of water vapour (ii) No, carbon dioxide is not an element, it is a compound. (iii) The properties of elements are due to the atoms they are made up of. (iv) The atoms of different elements are dissimilar.

(8) The metals like copper, iron, aluminium, gold, silver, platinum, tungsten, mercury, etc., are used in our day-to-day life.

Metals are elements. The properties of metals are : they show the properties of malleability, ductility, conductivity of heat and electricity, high density, lustre and sonority.

(9) The elements like sodium, magnesium, iron, gold, silver, platinum, etc., are metals. The elements like hydrogen, oxygen, nitrogen, carbon, etc., are non-metals. Arsenic, silicon, selenium, antimony are examples of metalloids.

(10)

	Compound	Constituent elements	Symbol	No. of atoms	Molecular formula	Characteristics
1.	Salt (Sodium chloride)	Sodium Chloride	Na Cl	1 1	NaCl	It is a white crystalline solid. It is readily soluble in water.
2.	Alum	Potassium Aluminium Sulphur Oxygen	K Al S O	2 2 2 8	$K_2Al(SO_4)$ $12H_2O$	It is white in colour. Solid in the form of crystal. Used in purification of water.
3.	Blue vitriol	Copper Sulphur Oxygen	Cu S O	1 1 4	$CuSO_4$ $5H_2O$	They are crystalline, blue in colour. Soluble in water. On heating salt loses water of crystallization and forms anhydrous substance.
4.	Ammonium chloride	Nitrogen Hydrogen Chlorine	N H Cl	1 4 1	NH_4Cl	White crystalline salt. Highly soluble in water. Mildly acidic.

5.	Baking soda	Sodium Hydrogen Carbon Oxygen	Na H C O	1 1 1 3	$NaHCO_3$	It is white amorphous powder. It turns red litmus blue, indicating alkaline in nature.
6.	Chalk	Calcium Carbon Oxygen	Ca C O	1 1 3	$CaCO_3$	It is insoluble in water. When heated to high temperature, it decomposes to form calcium oxide and carbon dioxide gas.
7.	Washing soda	Sodium Carbon Oxygen	Na C O	2 1 3	Na_2CO_3 $10H_2O$	It is white crystalline substance. It is soluble in water.

(11) (i) A mixture is formed by mixing different elements or compounds. The proportion of various components in a mixture is not fixed. No chemical change takes place during the formation of mixtures and no new substance is formed.

(ii) Cement, alloys like steel, bronze, brass, coffee, tea, soda, salad, milk, sharbet, bhel, etc., are used in everyday life.

(iii) All mixtures may not be useful to us. e.g., Mud puddle (dirty water) is not useful to us.

(iv) From the mixture of semolina, salt and iron filings, the iron filings can be separated by using magnet, as the iron filings get attracted to the magnet. The mixture of semolina and salt can be separated by sieving, as they differ in size.

(12) (i) Distillation is a process in which components of liquid mixture are converted into vapours by boiling and the vapours are then condensed by cooling to give pure liquid.

(ii) The water that falls from clouds is naturally pure.

(iii) The property of difference in the boiling points of liquids are seen in the distillation method.

(iv) The distilled water is pure water. It is commonly used to top off lead acid batteries used in cars and trucks. It is also widely used in brewing wine, desalinating water, refining oil, etc.

Q.4. (1) The components of mixtures are separated by simple methods like straining (filtering), sifting, picking, sorting, winnowing, combing with a magnet and sublimation, etc.

(i) Straining (filtering) : It is used to separate the compound or mixture like filtration i.e. pouring (mainly liquid substance) through a porous or perforator device or material in order to separate out any solid matter. E.g., tea leaves can be separated by straining while making the tea.

(ii) Sifting : It is a method to separate the components of mixture by separating out or putting through a

sieve. E.g., flour and husk can be separated by sifting.

(iii) Sorting : It is the process of separating the components of mixture by separating the particles according to size or shape. E.g., in a sediment sample, pieces of gravel, sand, silt can be separated by sorting.

(iv) Winnowing : It is the method used to separate the chaff from grain especially by throwing it into the air and allowing the wind or a forced current or air to blow away impurities. E.g., Husk is separated from heavier seeds of grain by winnowing.

(v) Combing with magnet : Mixture containing iron filings can be separated by combing with a magnet, since magnet shows the property of attracting iron filings. E.g., mixture of iron and sulphur can be separated by combing with magnet.

(vi) Sublimation : It is the process in which solid on heating changes to gaseous state without going into liquid state and vice-versa. E.g., we can separate the components of the mixture of common salt and ammonium chloride by the process of sublimation.

(2) Use of metals :

(i) Metals like copper, aluminium, iron are used for making cooking utensils.

(ii) Copper wires are used as conducting wires in electrical gadgets, radios, refrigerators, etc.

(ii) Iron and aluminium sheets are used to make roofs of houses.

(iv) Gold, silver and tin are used to make coins and ornaments.

(v) Mercury is used in thermometers.

Use of non-metals :

(i) Graphite a form of carbon, is used as the core in pencils.

(ii) Graphite (carbon) is used as electrodes in an electro-chemical cell.

(iii) Silicon dioxide, the oxide of the metalloid silicon, is used in making glass and cement.

(iv) Silicon is used in the solar cell.

(v) Red phosphorus is used in making safety matches, crackers, germicides, explosives, etc.

(vi) Sulphur is used for producing acids and also in some medicines, gun powder, etc.

Uses of compounds :

(i) Sodium chloride (salt) : It is an essential constituent of our daily diet. It is used in the preparation of baking soda and washing soda.

(ii) Sodium bicarbonate (baking soda) : It is used in the preparation of bread, cakes, dhokala, etc. It is used as antacid, which helps to reduce acidity in stomach. It is useful in preparing CO_2 gas and is one of the constituents of a fire extinguisher.

(iii) Water : It is used as a universal solvent. It is used to extinguish fire.

(iv) Sodium carbonate (washing soda) : (i) It is used as a cleansing agent in washing clothes. (ii) It is used in the manufacture of detergent power, paper and glass.

(v) Bleaching powder : (i) It is used in the preparation of chloroform. (iii) It is used for bleaching cotton in the textile industry.

Uses of mixtures :

(i) Cement is a mixture of limestone, clay and sand. When cement is mixed with water, it can bind sand and gravel and form solid hard mass called concrete which imparts strength to the building.

(ii) Wood is a mixture of a number of compounds such as lignin cellulose, water, hemicellulose, etc. It is used for construction work including beams, walls, doors and floors.

(iii) Alloys are mixtures containing two or more metals or a metal and a non-metal. E.g., stainless steel is an alloy of iron, carbon, chromium, nickel, carbon. It is used in cooking utensils, cupboard, machinery parts, tools, etc. Brass is an alloy of copper and zinc used in hinges, electrical plugs, etc.

(iv) Coal is a mixture of carbon and other traces of compounds. It is used as fuel.

(v) Beverages like tea, coffee, milk are mixtures used in day-to-day life. These beverages are used as stimulants.

(3) Application of centrifugation :

(i) Centrifugation is used in diagnostic laboratories - separation of urine components and blood components in forensic and research laboratories and also for blood and urine tests for providing information to assist in the diagnosis, monitoring and treatment of a wide range of diseases.

(ii) Used in dairies and homes to separate butter from cream.

(iii) Used in washing machines to squeeze out water from wet clothes.

(iv) Centrifugation is a common procedure in microbiology and cytology used to separate certain organelles from whole cells.

(v) Centrifugation aids in separation of protein using purification techniques such as salting out in industrial chemistry. e.g., ammonium sulphate precipitation.

(4) (A) Distillation :

(i) Simple distillation is the primary method used for purifying water of unwanted chemicals and minerals such as salt.

(ii) It is used for separating acetone and water.

(iii) It is used in distillation of alcohol.

(iv) Distillation is used in many commercial processes such as production of alcohols, distilled water, and many other liquids.

(v) Desalination plants also use distillation to turn seawater into drinking water.

The method of distillation is used for separating the components of mixtures because this separation technique involves two miscible liquids that boil without decomposition and having sufficient difference in their boiling points. The process of distillation is used to obtain liquid substances in their pure state.

(B) Separating funnel :

(i) It is used to separate a mixture of oil and water.

(ii) It is used to separate a mixture of kerosene oil and water.

(iii) In the extraction of iron from its ore, the lighter slag is removed from the top by this method to leave the molten iron at the bottom of the furnace.

This method of separating funnel is used for separating the components of mixture because this separation process involves two immiscible liquid phases. One phase is the aqueous phase and the other phase is an organic solvent. This separation is based on the differences in the densities of the liquids. The liquid having more density forms the lower layer and the liquid having less density forms the upper layer.

(5) Precautions to be taken while using the method of distillation :

(i) Before any distillation process starts, ensure that apparatus is set properly, ensure that there is no obstruction in the piping that could cause excessive pressure build up causing it to burst.

(ii) The flammable organic solvents such as alcohol, acetone, etc., are highly volatile they require careful handling. Otherwise, they may catch fire, if not handled properly.

(iii) The lab should be well-ventilated to prevent alcoholic vapour.

(iv) Use proper disposal of all waste.

(v) Monitor the temperature constantly. Don't allow the liquid to overheat.

(vi) The heat source should be at high strength at the beginning of the distillation to start off and reduced when approaching the boiling point.

(vii) Control the temperature of the condensation of liquid so that no vapour exits the condenser.

(viii) See to it that the fire extinguisher is installed.

Precautions to be taken while separating compounds of mixture by separating funnel :

(i) Use the glassware carefully.

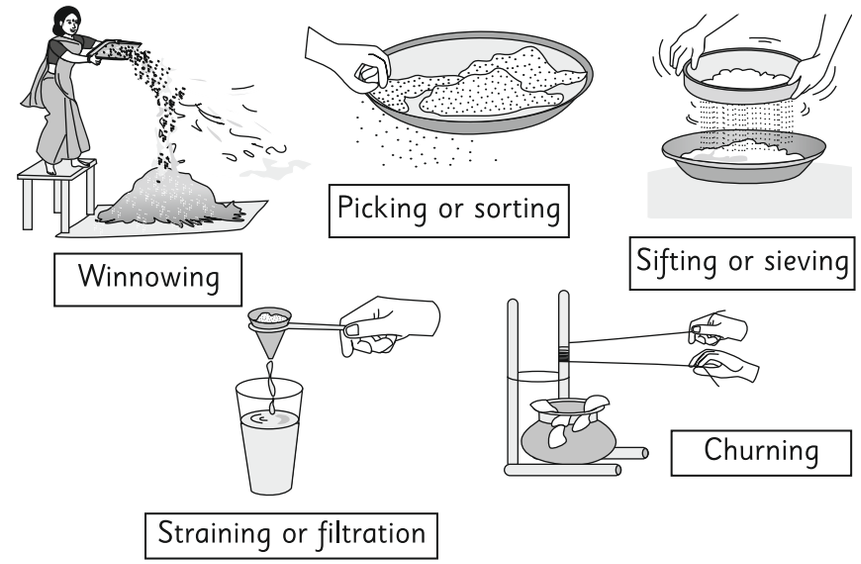
(ii) Open the stopcock of the separating funnel after shaking, to release the pressure inside the funnel.

(iii) The top should be vertical to allow the water to run out and must be closed before the oil reaches the bottom of the funnel.

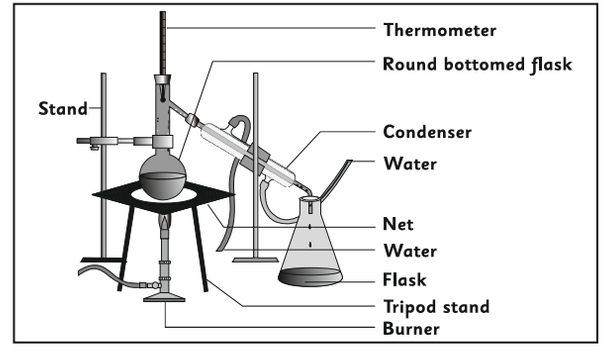
(iv) Organic solvents should be handled carefully.

(v) Fire extinguisher should be installed.

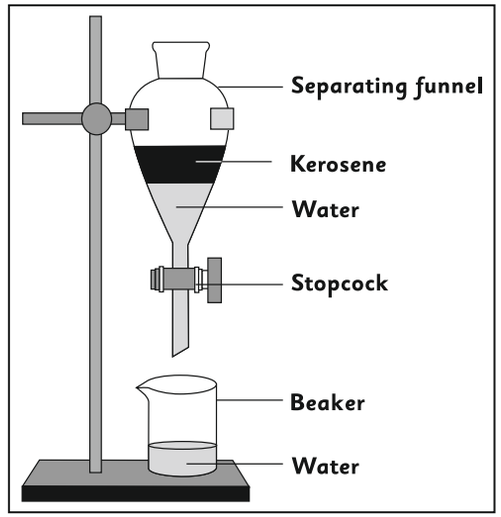
Q.5.



Q.6. (a) Distillation Method



(b) Separation Method



Topic 15 : Materials We Use

Q.1. (A) **(1)** **Fluoride** is essential for the strengthening of bones and the enamel covering of teeth.

(2) The Latin word **'detergere'** means 'to wipes away'.

(3) A **detergent** is a substance that cleans or wipe away dirt.

(4) The natural detergents contain a chemical named **saponin**.

(5) **Soap** is a man-made detergent.

(6) Soft soap contains **potassium** salt of fatty acids.

(7) **Synthetic detergents** can be used in hard water.

(8) **Concrete** is prepared by mixing cement, water, sand and gravel.

(9) For making a strong and leak proof slab, certain substances are mixed in **concrete**.

(B) **(1)** The substance that helps water to remove dirt from the surface of materials is called **detergent**.

(2) Fluoride is used in toothpaste to prevent **tooth decay**.

(3) Soap is a salt of **fatty acid** and sodium hydroxide.

(4) Synthetic detergents can be used in **hard** water as well.

(5) For construction purposes **portland** cement is the most commonly used cement.

(C) (1)-(b), (2)-(c), (3)-(d), (4)-(a)

(D) **(1)** False **(2)** True **(3)** False

(E) **(1)** fluoride **(2)** soap **(3)** volcanic ash **(4)** sodium hydroxide **(5)** ash

Q.2. (A) **(1)** Clothes become dirty mostly because particles of dirt and dust cling to the fibres. When they are accompanied by oil or greasy matter. When detergent is dissolved in water, the surfactants in the detergent help in lowering the surface tension of water and help it to wet the fabric uniformly. The molecule of a detergent is long and the properties of its two ends are different. A molecule of a detergent holds on to a water molecule at one end and on oil molecule at the other. As a result, the molecules of oil mix with the water. Thus, when soiled clothes are immersed in such a solution, the greasy matter is surrounded by detergent molecules and are removed from the clothes. The dirt is detached from the fabric. Surfactants in the detergents keep the dust particles in suspension, preventing their redeposition on the fabric. When the clothes are washed in water, the greasy particles and suspended dirt are removed along with the detergent and the cloth becomes clean.

(2) Take a clear empty bottle with a cap. Fill one third of the bottle with tap water. Add 10 drops of pure liquid soap or soap powder to the bottle. Shake the bottle vigorously for few seconds. Stir vigorously until the soap is thoroughly mixed into the water. Observe the soap solution in the bottle carefully.

If we observe, there is a distinct lack of fluffy bubbles, lather or soap foam and the water appears to be cloudy, precipitate or milky and forming a scum (a filmy or frothy layer of matter that forms on the surface of water). Thus, the water sample suggests it is hard water.

(3) The principal ingredients of a tooth paste are calcium carbonate, calcium hydrogen phosphate and certain proportion of fluoride.

(1) The functions of each ingredient are :

(i) Calcium carbonate and calcium hydrogen phosphate remove the dirt on teeth.

(ii) These ingredients also polish the teeth.

(2) Fluoride : A certain proportion of fluoride in the tooth paste helps prevent tooth decay. Fluoride is essential for the strengthening of bones and of the enamel covering the teeth.

(4) Cement is a dry, greenish grey powder with fine particles. It is made from raw material which consists of 60% lime (calcium oxide), 25% silica (silicon dioxide), 5% alumina. The rest is iron oxide and Gypsum (calcium sulphate.)

Importance of Cement :

(1) Cement is an important building material, used in different kinds of construction work.

(2) It is used in preparation of concrete by mixing cement, water, sand and gravel.

(3) Sheets, blocks, pillars and pipes are made from concrete produced from cement.

(4) Certain substances are mixed with cement for making a strong and leak proof slab.

(5) Reinforced concrete is used to make building columns and drainage piping.

(5) Cement is an important material in construction. Cement is the principal ingredient in preparation of concrete. Concrete is prepared by mixing cement, water, sand and gravel. Concrete is formed when cement creates a paste with water that binds with sand and rock to harden. Concrete is the most common material used for construction due to its properties such as binding, strength, durability and easy availability. Hence, without cement, concrete cannot be made.

(6) The word 'detergent' is derived from the Latin word 'detergere' which means 'to wipe away'. A detergent is a substance that cleans or wipes away dirt.

List of detergents that we use are ritha, shikekai, soap, washing soda, washing powder, liquid soap, shampoo, etc.

(7) Fabrics made from silk, wool, raw silk, chiffon, satin are made of delicate fibres. These delicate garments are very fragile. Alkali damages the fibres of silk or wool. Care has to be taken to protect the fabric from shrinking, damping, fading, stretching. Hence, for washing these delicate garments, detergents containing mild alkali should be used. Mild detergents are formulated for washing delicate garments in order to prevent the delicate garments from getting spoiled.

(8) The property possessed by certain solid substances of spreading on a surface to influence the surface tension of liquid is called surface activity.

The chemicals responsible for the surface activity of various detergents are sodium lauryl sulphate, sodium dodecylsulfate, dioctyl sodium sulfosuccinate, ammonium lauryl sulphate, sodium tripoly phosphate, sodium silicate, sodium carbonate, sodium carboxy methyl cellulose, etc.

(9) In olden times in India, acacia, neem twigs, coal powder, ash, tooth powder, salt, pomegranate rind were used for cleaning teeth.

Today, a variety of tooth pastes and tooth powders are used for this purpose.

(10) Natural materials are any products of matter that come from organic substances which are of plant and animal origin e.g., silk, cotton, wool, etc.

Man-made materials are new substances produced by chemical processing of natural substances. e.g., detergent, rayon, polyester, cement, plastic, tooth paste, etc.

(11) Sodium fluoride is the source of fluoride which is used in most of the tooth pastes or tooth powders.

Q.3. (1) Soap is a mixture of sodium or potassium salts of fatty acid. Hard water contain magnesium and calcium salts. Soap reacts with calcium and magnesium salts to form water insoluble calcium and magnesium salts of the fatty acids. No froth (lather) is formed with soap if hard water is used. Thus, soap is wasted and the cloth gets spoiled due to these insoluble salts. Hence, soap cannot be used in hard water.

(2) A synthetic detergent does not form insoluble salts in hard water unlike soap and as such, it can be

advantageously used in both soft as well as hard water. As compared to soap, a small quantity of a synthetic detergent is enough for effective cleaning action. A synthetic detergent can be effectively used at the ordinary temperature. This saves the cost of fuel. A synthetic detergent does not damage the delicate fibres of woollen and silk garments as soap does. Hence, synthetic detergents are superior to soaps.

(3) Clothes, when washed in hard water, become dull or get discoloured. In hard water, minerals like calcium and magnesium prevent water from mixing with detergent to form a solution. As a result, soap scum is formed. Sometimes the soap scum and mineral residue in the cloth may form yellow or reddish brown stains or spots on clothes during washing. Hence, often, coloured spots are formed on clothes during washing.

(4) When oil and water are mixed together, the oil always floats to the top because it is less dense than water. Oil and water don't mix because water molecules are more attracted to each other than to oil molecules. But when sufficient quantity of detergent is added, detergent molecule get attracted to both water and oil as the molecules of a detergent are long and the properties of its two ends are different. A molecule of a detergent holds on to a water molecule at one end and oil molecule at the other. As a result, the molecule of oil mix with water and form homogeneous mixture. Thus, detergent creates a mixture of water and oil and spread on the surface. Thus, even though oil does not mix in water, oil and water become homogeneous, if sufficient quantity of detergent is added.

(5) The main compounds present in tobacco masheri are tar, nicotine, etc. When tobacco masheri is used in cleaning

teeth, the nicotine or tar settle into the oral cavity while brushing the teeth. These substances are able to leach their way into microscopic openings in the enamel, resulting in yellow or brown discolouration of the teeth surface. Thus, tobacco stains become stubborn and cannot be removed easily. Prolonged use of tobacco masheri can damage the oral tissues or cause inflammation of tissues and sometimes it can be fatal and may lead to oral cancer. Hence, tobacco masheri should not be used for cleaning teeth.

Q.4. (1)

	Natural detergents		**Man-made detergents**
(i)	Natural detergents are natural cleansing agents.	**(i)**	Man-made detergents are synthetic detergents which act as cleansing agents.
(ii)	Natural detergents are the substances obtained from plant products or plant origin.	**(ii)**	Man-made detergents are new substances produced by the chemical processing of substances of plant or animal origin.
(iii)	Large scale production of natural detergents is difficult.	**(iii)**	Man-made detergents are available in plenty.
(iv)	Natural detergents are bio-degradable.	**(iv)**	Man-made detergents are non-bio-degradable.
(v)	They are affected by hard water and are made less effective.	**(v)**	Hard water has no effect on them.
(vi)	They do not have harmful effect on skin or silk and woollen threads and cloth.	**(vi)**	They have harmful effect on skin or silk and woollen threads and cloth.

Similarities between Natural and Man-made detergents :

(1) Natural and man-made detergents act as cleansing agents.

(2) They produce lather or foam when dissolved in water.

(3) The molecules of both detergents are long and the properties of its two ends are different. A molecule of a detergent holds on to a water molecule at one end and oil molecule at the other. As a result, the molecules of oil mix with the water. This is how cleansing action of both the detergents takes place.

(2)

	Soap		**Synthetic detergent**
(i)	Sodium or potassium salts of fatty acids are the main ingredients of soaps.	**(i)**	Water soluble, salt-like group attached to a long hydrocarbon chain is the main structure of synthetic detergents.
(ii)	They are affected by hard water and are made less effective.	**(ii)**	Hard water has no effect on them.
(iii)	Silk and woollen garments are damaged if washed by soap.	**(iii)**	Silk and woollen garments can safely be washed with synthetic detergents.
(iv)	Their cleansing power is less as compared to that of a synthetic detergent.	**(iv)**	Its cleansing power is much more than that of soap.

Similarities between Soap and Synthetic detergent.

(1) Soap and synthetic detergent are man-made detergents.

(2) Soap and synthetic detergent are obtained by subjecting the raw materials to a variety of chemical processes.

(3) Soap and synthetic detergent are used as cleansing agents.

(4) The property of surface activity remains the same for both.

(5) Production of lather or foam, emulsifying oil substances, cleansing action taking place with both are same.

(3)

	Bath soap		**Soap for washing clothes**
(i)	Soft soaps are used for bathing.	**(i)**	Hard soap is used for washing clothes.
(ii)	Bath soap contains potassium salt of fatty acids.	**(ii)**	Soap for washing clothes contains sodium salts of fatty acids.
(iii)	Bath soap does not cause irritation of the skin.	**(iii)**	Soap used for washing clothes may cause irritation of skin.
(iv)	Good quality perfumes, oils are used to make bath soap.	**(iv)**	Cheaper quality perfumes and oils are used to make soap for washing clothes.

Similarities between Bath soap and Soap for washing clothes.

(1) Bath soap and soap for washing clothes are man-made detergents.

(2) Both the soaps are used as cleansing agents.

(3) They produce lather/foam, emulsify fat/oil.

(4) Cleansing action or purpose of bath soap and soap for washing the clothes remains same.

(5) The property of surface activity in the both soaps is more or less similar.

(4)

	Modern cement		**Ancient cement**
(i)	Modern cement of today is called Portland cement.	**(i)**	Ancient cement of the past is called Roman cement.
(ii)	It is made from raw materials which consist of 60% lime (CaO), 25% silica (SiO_2), 5% alumina, iron oxide and gypsum (calcium sulphate).	**(ii)**	It is made from mixing of volcanic ash in moistened lime.
(iii)	Modern cement is produced on a large scale.	**(iii)**	Ancient cement was produced on a small scale.
(iv)	Concrete made from modern cement is less resistant to salt water.	**(iv)**	Concrete made from ancient cement is more resistant to salt water.
(v)	Manufacturing of modern cement increases carbon emission and causes pollution.	**(v)**	Manufacturing of ancient cement significantly reduces the carbon emission and causes less pollution.

Similarities between Modern cement and Ancient cement :

(1) Modern cement and ancient cement are used for construction work, e.g., building, monuments, dams, roads, etc.

(2) Lime is one of the common ingredients in making cement of both the types.

(3) Properties such as strength, resistance to heat, salt water, durability remain more or less similar.

(4) Sheets, blocks, pillars, pipes are made from concrete produced from both the types of cement.

History : Part 1
Unit - I
Topic 8 : An Ideal Ruler

Q.1. (A) **(1)** Swaraj **(2)** discipline **(3)** Surajya
(4) freedom **(5)** Kanhoji Jedhe
(6) Bajiprabhu Deshpande **(7)** ryot

(B) **(1)** Daulatkhan **(2)** Subramanyam Bharati
(3) Chhatrasal **(4)** Mahatma Jotirao Phule
(5) Sinhagad **(6)** Siddi Ibrahim
(7) Khafi Khan **(8)** Surajya
(9) Jiva Mahala **(10)** Kanhoji Jedhe

(C) **(1)** Hiroji Farjand and Madari Meheter
(2) The Mughals **(3)** In cash
(4) Tolerance **(5)** Chhatrapati Shivaji Maharaj
(6) Vishwakavi Rabindranath Tagore

(D) **(1)** Kanhoji Jedhe **(2)** Daulatkhan
(3) Chhatrasal **(4)** Afzalkhan

(E) (1)-(c), (2)-(d), (3)-(a), (4)-(b).

(F) **(1)** False **(2)** True **(3)** True **(4)** False **(5)** True

Q.3. (1) Maharashtra, before the times of Chhatrapati Shivaji Maharaj, was under the domination of the Adilshahi, Portuguese, Siddis and the Mughal powers.

(2) Chhatrapati Shivaji Maharaj's subjects suffered due to enemy invasions.

(3) A system of making payments to the soldiers in the form of Jagirs.

(4) Chhatrapati Shivaji Maharaj aimed at establishing and maintaining an independent and sovereign existence that did not accept the dominance of any other power.

(5) Maharaj warned the Deshmukh of the Rohida valley not to fail in his duty to the ryot.

(6) Maharaj used to punish soldiers severely who would misbehave with women. Also if they kept valuables collected during the campaign without depositing it with the Government.

(7) Soldiers were honoured for their bravery in a campaign.

(8) Pandit Jawaharlal Nehru has said that Maharaj did not belong to Maharashtra alone, he belonged to the whole Indian Nation.

(9) Maharaj considered the Muslims in Swaraj as his own subjects.

(10) Maharaj inspired Chhatrasal to create an independent kingdom in Bundelkhand.

(11) Tilak started Shivajayanti celebrations for the purpose of National awakening.

(12) Siddi Hilal was a Sardar in the army of Maharaj.

Q.4. (1) The grave dangers in the life of Chhatrapati Shivaji Maharaj were the meeting with Afzalkhan, the siege of Panhala, the attack on Shaistakhan, and the escape from Agra.

(2) Jiva Mahala, Bajiprabhu Deshpande, Murarbaji Deshpande, Tanaji Malusare, Hiroji Farjand were the close associates of Maharaj and they risked their lives for Maharaj.

(3) Chhatrapati Shivaji Maharaj issued a warning to his soldiers not to fail in their duties towards the ryot. Maharaj told the Deshmukh to visit every village and shift the people to a safe place down the ghats, during the times of foreign invasion. He also warned soldiers not to delay in their duties. If Deshmukh did not care for the ryot, he would be responsible for the same.

(4) Maharaj followed a tolerant religious policy. He had framed strict rules for his soldiers that they should not harm a mosque during any campaign. If any one got a copy of the Holy Quran, they should hand over the same with reverence to a Muslim. Maharaj considered the Muslims in Swaraj as his own subjects. He had many Muslim servants, Sardars and officers in his service in the army, navy or in his court.

(5) Chhatrapati Shivaji Maharaj's policy regarding the army was :

(i) The valuables collected during the campaigns in enemy territories were to be deposited with the Government.

(ii) Soldiers were honoured for their bravery in a campaign.

(iii) He looked after the maintenance of the families of the soldiers who died in the battle.

(6) Chhatrapati Shivaji Maharaj gave a strict order to the Deshmukh of Rohida valley not to fail in his duty to the ryot. He had to visit every village and shift people to a safe place down the ghats without any delay for a moment, during the times of foreign invasion. If the Deshmukh delayed and the Mughal army would take the people prisoner, then it would be the Deshmukh's fault.

(7) The future generations will continue to look upon the work of Chhatrapati Shivaji Maharaj of founding the Swaraj and turning it into Surajya as an ideal and a source of inspiration.

Q.5. (1) The associates of Maharaj were brave and loyal. They used to perform their duties by risking their lives. So Maharaj took great care of his associates.

(2) The soldiers were fighting bravely and risking their lives for Swaraj. They were faithful and loyal to Chhatrapati Shivaji Maharaj. Therefore, for showing bravery in a campaign, Chhatrapati Shivaji Maharaj honoured them and inspired them. He also looked after the families of the soldiers who died in the battle. He even took care of the wounded soldiers of Swaraj as well as the soldiers of enemies.

Topic 9 : The Maratha War of Independence

Q.1. (A) **(1)** Aurangzeb **(2)** Sambaji Maharaj
(3) Akbar **(4)** Rajaram Maharaj
(5) Maharani Yesubai **(6)** Marathas
(7) Siddi **(8)** Hambirrao
(9) Mukarrabkhan **(10)** Yesubai

(B) **(1)** Chhatrapati Sambhaji Maharaj
(2) Santaji Ghorpade and Vithoji Chavan
(3) Yesaji Kank **(4)** Budhbhushanam
(5) Siddi of Janjira

(C) **(1)** Zulfikarkhan **(2)** Marathas
(3) Shahajada (Prince) Akbar
(4) Sambhaji Maharaj **(5)** Mukarrabkhan
(6) Shahu
(7) Santaji Ghorpade and Dhanaji Jadhav

(D) **(1)** Malwa **(2)** Niraji Shinde **(3)** Riyasatkar

(E) (1) - (c), (2) - (d), (3) - (b), (4) - (a).

(F) **(1)** True **(2)** True **(3)** False
(4) False **(5)** True

Q.2. **(1)** The Marathas fought under the leadership of Chhatrapati Sambhaji Maharaj, Chhatrapati Rajaram Maharaj and Maharani Tarabai for the defence of the Swaraj.

(2) Aurangzeb suspended the campaign against the Marathas.

(3) When the Marathas laid siege to the Siddi's fort of Dandarajpuri and battered the fort of Janjira with their artillery, the Mughal army invaded Swaraj.

(4) Mukarrabkhan raided Sangameshwar and captured Sambhaji Maharaj.

(5) Before leaving for Jinji, Rajaram Maharaj had assigned the duty to fight against the Mughals to Ramchandrapant Amatya, Shankaraji Narayan Sachiv and Dhanaji Jadhav.

(6) Aurangzeb kept Mukarrabkhan incharge of the Kolhapur province.

(7) To vanquish Prince Akbar, Aurangzeb himself descended on the South.

(8) The war with Mughals became fiercer when Sambhaji Maharaj became the Chhatrapati.

(9) Aurangzeb removed his turban in frustration and threw it on the floor.

(10) Aurangzeb died in 1707 C.E. at Ahmednagar.

(11) Maratha war of Independence ended with the death of Aurangzeb.

Q.3. **(1)** Devdatta has described Maharani Tarabai's valour in the following words :

"Delhi was humbled, the Emperor of Delhi lost face; such was the wrath of the great queen Tarabai."

(2) Sambhaji Maharaj's army laid a siege to Siddi's Dandarajpuri fort and battered the fort of Janjira with the artillery. But at the same time the Mughal army invaded Swaraj. Therefore Sambhaji Maharaj had to return half-way from the Janjira campaign.

(3) The Portuguese of Goa joined hands with Emperor Aurangzeb against Sambhaji Maharaj. Hence Sambhaji Maharaj decided to teach a lesson to the Portuguese.

(4) Siddi of Janjira used to harass the people in the Maratha territory by raiding, burning, looting and committing atrocities on the people.

(5) When the Mughal forces were engaged in the siege of Jinji, they were attacked fiercely from outside by the Sardars Santaji and Dhanaji. Because of this Rajaram Maharaj could escape through the siege and returned to Maharashtra.

Q.4. **(1)** When Zulfikarkhan put the Raigad fort under siege, that time Rajaram Maharaj, Maharani Tarabai, Maharani Yesubai and her son Shahu were in Raigad. Maharani Yesubai had chosen Rajaram Maharaj as Chhatrapati. So to keep the Maratha Chhatrapati secure without regard for her own life or that of her son, it was decided that Rajaram Maharaj should escape from Raigad and the Raigad fort should be fought under the leadership of Maharani Yesubai. This decision was taken by Maharani Yesubai to tackle the unprecedented calamity on Swaraj.

(2) The Maratha army General Hambirrao Mohite got killed during an encounter with the Mughal army. Due to this blow the military strength of Sambhaji Maharaj was weakened.

(3) Rajaram Maharaj left Raigad and decided to go to the fort of Jinji for his safety because the fort of Jinji was invincible and away from Maharashtra. It was difficult for the Mughals to capture this fort.

(4) Sambhaji Maharaj was taken to Aurangzeb and by his orders, Sambhaji Maharaj was brutally put to death. This Maratha Chhatrapati did not compromise his self-respect and faced his death nobly and bravely. The Marathas took inspiration from his sacrifice and intensified their fight against the Mughals.

(5) It is said that the return of Rajaram Maharaj to Maharashtra gave a boost to the Maratha activity because Marathas attacked the Mughal territories of Khandesh, Varhad and Balgan. He inspired and motivated the Maratha warriors to protect the Swaraj and thus performed a very valuable task.

(6) Aurangzeb could not succeeded in his campaign against the Marathas so he suspended the campaign against the Marathas and turned to the Adilshahi and Qutubshahi kingdom.

Q.5. (1) Chhatrapati Sambhaji Maharaj : Sambhaji Maharaj was the elder son of Shivaji Maharaj. Shivaji Maharaj had given him excellent education in civil administration and military campaigns. He had interest in the administration of the State and the command of the army from the age of fourteen. He knew Sanskrit and other languages well. He read many ancient books on polity. He wrote their gist in a book called 'Budhbushanam'. He was courageous and brave, fearless king. He was brutally put to death by Aurangzeb but he faced death nobly and bravely.

(2) Chhatrapati Rajaram Maharaj : Chhatrapati Rajaram Maharaj ascended the throne after the death of Sambhaji Maharaj in very difficult times. He was thoughtful and kind hearted. He brought together all the capable people in Maratha empire. He inspired and created new enthusiasm among them. He motivated the Sardars to protect the Swaraj. He fought against Aurangzeb for eleven years with great courage and tenacity.

(3) Maharani Tarabai : After the death of Chhatrapati Rajaram Maharaj, Maharani Tarabai led the Maratha War of Independence. She was an intelligent, knowledgeable and capable wife of Rajaram Maharaj. Her management of the army and administration had won renown. Tarabai continued the struggle of Swaraj bravely with the help of her Sardars. She fought for seven years. She kept the Maratha kingdom strong and encouraged Sardars in Mission of Swaraj. Tarabai kept up the legacy of valour inherited from Chhatrapati Shivaji Maharaj.

Topic 10 : The Expansion of the Maratha Power

Q.1. (A) **(1)** Shahu Maharaj **(2)** Balaji Vishwanath
(3) Maharani Tarabai **(4)** Bajirao
(5) Bundelkhand **(6)** Satara
(7) Nadir Shah **(8)** Balaji Vishwanath
(9) Palkhed **(10)** Satara
(11) Sanad

(B) (1)-(c), (2)-(a), (3)-(b).

(C) **(1)** Nemaji Jadhav

(D) **(1)** Shrivardhan **(2)** Raja Chhatrasal
(3) Raverkhedi **(4)** Chimajiappa
(5) Vasai Fort **(6)** Sayyid brothers
(7) Sardeshmukhi **(8)** Kanhoji Angre

(F) **(1)** True **(2)** True **(3)** False **(4)** False
(5) True **(6)** False **(7)** True **(8)** True

Q.2. (1) There was a struggle among the sons of Aurangzeb for the throne of Delhi.

(2) Prince Azamshah marched towards Delhi to seize the imperial throne, after his father's death.

(3) Shahu Maharaj marched towards Maharashtra immediately after his release.

(4) Maharani Tarabai did not accept Shahu's claim to the throne of Delhi.

(5) The Sardars dispatched by Bajirao to assist his brother Chimajiappa in Malwa were Malharrao Holkar, Ranoji Shinde, and Udaji Pawar.

(6) Balaji Vishwanath convinced many Sardars that Shahu Maharaj was the real heir of the Maratha empire and so they should join hands with Shahu Maharaj.

Q.3. (1) Balaji got the rights from the Mughal Emperor for the Marathas to collect chauthai and sardeshmukhi from the Mughal territory in the Deccan.

(2) Mohmmad Khan Bangush, the Mughal Subhedar of Allahabad attacked Bundelkhand. He defeated Chhatrasal and cornered him. So Chhatrasal asked Bajirao for help.

(3) Nizam opposed the right of the Marathas to collect chauthai and Sardeshmukhi in the Mughal territory in the Deccan.

(4) Azamshah was one of the sons of Aurangzeb. There ensued a struggle among his sons for the throne of Delhi. At that time Azamshah was in the South. He marched towards Delhi to seize the imperial throne.

(5) Shahu Maharaj was released by Azamshah. Immediately after his release, he marched towards Maharashtra. He was joined with some Maratha Sardars, but Maharani Tarabai did not accept his claim to the throne. So Shahu Maharaj fought a battle at Khed with Maharani Tarabai on the bank of Bhima.

Q.5. Sanad : Grants.

Chauthai : The right to collect one fourth part of the revenue. (From the Mughal territory in the Deccan)

Sardeshmukhi : The right to collect one tenth part of the revenue. (From the Mughal territory in the Deccan.)

Gadi : Throne.

Q.6. (1) The battle between Maharani Tarabai and Shahu Maharaj was fought at Khed because Maharani Tarabai did not accept Shahu Maharaj's claim to the Maratha throne. In the battle, Shahu Maharaj captured Satara and got himself crowned. Satara became the capital of Maratha Kingdom. For a while, the opposition between Maharani Tarabai and Shahu Maharaj continued. Maharani Tarabai proclaimed her minor son Shivaji II as the Chhatrapati of Panhala. In this way, two separate Maratha states were formed. They were the Satara Kingdom and the Kolhapur Kingdom.

(2) Azamshah believed that if Shahu Maharaj was released, there would arise a conflict between him and Maharani Tarabai for the throne of the Maratha Chhatrapati. Azamshah felt that this would end the Maratha power. Therefore, Azamshah released Chhatrapati Shahu Maharaj from his custody.

(3) The Mughal power faced the threat of the Irani and Afghani invaders from the North-West. They also had a threat of local Pathans, Rajputs, Jats and Rohilla rulers. The internal competition and tussle in the court weakened the Mughal power. Due to all these, the Delhi court needed help from the Marathas.

Q.7. (1) Balaji Vishwanath : Balaji Vishwanath was a prominent supporter of Shahu Maharaj. He was from Shrivardhan, in Konkan. He was a capable and experienced Peshwa. He convinced the Sardars that Shahu Maharaj was the real heir of the Maratha throne and won them over to the side of Shahu Maharaj. He obtained grants to collect chauthai and sardeshmukhi from the Mughal territory in the Deccan.

(2) Kanhoji Angre : Kanhoji Angre was the chief of the Maratha Navy. He chose to side with Maharani Tarabai and attacked the territories of Shahu Maharaj. This gave rise to a difficult situation. Under these circumstances, Shahu Maharaj sent Balaji Vishwanath to fight against Kanhoji Angre. Balaji was competent and experienced. He avoided war and convinced Kanhoji Angre to come to the side of Shahu Maharaj.

(3) The Battle of Palkhed : The Battle of Palkhed was fought between Nizam-ul-Mulk and Bajirao I. The Mughal Emperor Farukhsear appointed the Nizam, the Subhedar of the Deccan. In 1713 C.E. the Nizam tried to establish a separate existence at Hyderabad. The Emperor had given the Marathas the rights to recover chauthai-sardeshmukhi from Mughal areas. The Nizam did not like it so he was against it. He captured some part of the Pune Pargana. Bajirao decided to checkmate the Nizam and defeated the Nizam at Palkhed near Aurangabad. The Nizam accepted the Maratha right to collect chauthai-sardeshmukhi.

(4) The Defeat of the Portuguese : The territories of Vasai and Thane on the Konkan coast were in the possession of

the Portuguese. The Portuguese rulers oppressed their subjects. So Bajirao sent his brother Chimajiappa to subdue the Portuguese. He conquered Thane and adjacent areas. In 1739 C.E. he laid siege to the Vasai fort. The Portuguese had powerful artillery and the fort was very strong. In spite of all this Chimajiappa continued with the siege and forced the Portuguese to surrender. This way Portuguese territory and the fort of Vasai passed into the hands of the Marathas.

(5) Peshwa Bajirao I : After the death of Balaji Vishwanath, his son was appointed as a Peshwa in 1720 C.E. He was a great General. With his valour, he established the Maratha supremacy in the North. He extended the Maratha power in Malwa and Bundelkhand. He won status for the Maratha power as a formidable power in the whole of India.

Civics

Topic 4 : Fundamental Rights - Part I

Q.1. (A) **(1)** birth **(2)** law **(3)** same
(4) hierarchy **(5)** Legal **(6)** life
(7) factories **(8)** education **(9)** deprived
(10) expression **(11)** lawful

(B) **(1)** Untouchability **(2)** Law
(3) Fundamental rights **(4)** Bonded labour
(5) Women, children and the weaker sections of society
(6) Bharat Ratna

(C) **(1)** False **(2)** True **(3)** True **(4)** False
(5) True **(6)** False **(7)** True **(8)** False
(9) True **(10)** True **(11)** False **(12)** False

(D) (1)-(c), (2)-(a), (3)-(b), (4)-(e).

(E) **(1)** Everyone gets rights at birth.

(2) Government cannot deprive you of a job by discriminating on the basis of religion, sex, place of birth.

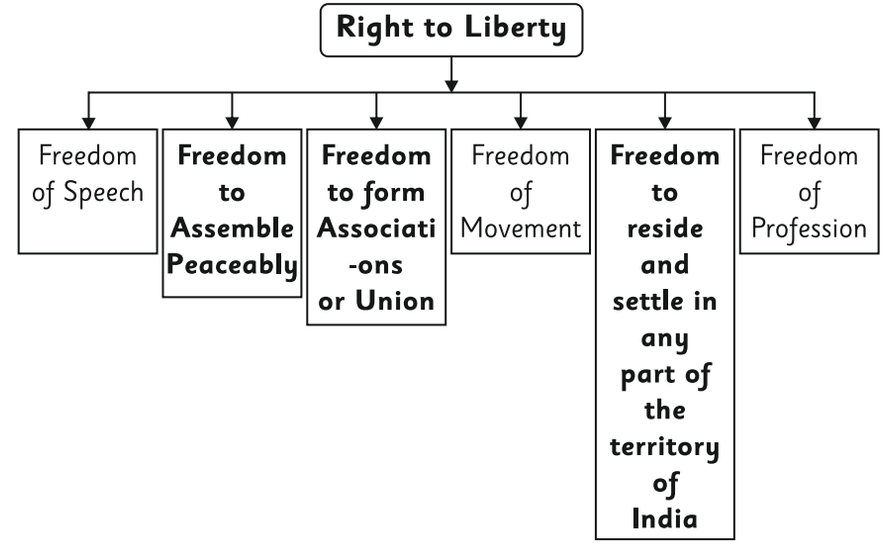
Q.2. (1) The titles like Raja, Maharaja and Raobahadur, etc., have been abolished.

(2) The Right against Exploitation implies the right to prevent exploitation.

(3) The special provision made under the Right against Exploitation is to prevent the exploitation of children. It is prohibited to employ children under 14 years of age in hazardous places.

(4) Bonded labour is a labourer who works against his/her wish.

(5) Generally women, children, weaker sections of the society and powerless people in the society are exploited.



Q.4. (1) The Indian Constitution has guaranteed equal rights to all citizens in order to create a conducive atmosphere to develop their skills and qualities. These rights are Fundamental Rights.

(2) The awards like Padmashree, Padmabhushan, Padmavibhushan, etc., are conferred by the Government upon people for their distinguished contribution in different fields. 'Bharat Ratna' is the greatest civilian award of our country.

(3) In order to safeguard the life and liberty, the Constitution has banned all types of oppression through the Right against Exploitation. It has made special provision to prevent the exploitation of children. Accordingly, it is prohibited to employ children under 14 years of age in hazardous places. Children cannot be employed or made to work in factories and mines.

(4) The Constitution has given equal rights to all Indian citizens to create a conducive atmosphere for the self, as well as the entire society's development. Equal rights

protect all individuals from injustice, exploitation, discrimination and deprivation so that they can develop their skills and qualities.

(5) The advantages of equality before law and equal protection of the laws are that the state does not make discrimination against any citizen on grounds of religion, caste, race, sex, descent or place of birth. The inhuman practice of untouchability and the titles of Raja, Maharaja are also abolished by this law. The society is established only on equality.

Q.5. (1) Our Constitution has established equality in the society by abolishing the titles like Raja, Maharaja, which create an artificial hierarchy in the society. This hierarchy breeds inequality. Hence, the Constitution has abolished the titles like Raja, Maharaja.

(2) The Constitution has made a law of equality. This law of equality gives protection to all from the discrimination made in the society on the basis of caste, race, religion, etc. Untouchability is also abolished by the law. That is why practising untouchability is a cognizable offence.

Q.6. (1) **Right to Liberty :** Right to Liberty guarantees all the freedoms necessary to the citizens. They are: freedom of speech and expression, freedom to assemble, freedom to form associations or unions, freedom to move freely throughout the territory of India, freedom to reside in any part of the territory of India, freedom to practice any lawful profession, occupation, trade or business of one's choice. This right is a legal protection given to everybody equally. It also includes Right to Education. All children between 6 and 14 years of age are entitled to get education as a Fundamental Right. This ensures that no child will be deprived of education.

Q.7. (I) Action of A : 'A' established 'Adivasi Cooperation Forum' to solve the problems of the tribal people.

Freedom : Freedom to form associations or unions.

(II) Action of B : 'B' decided to move his father's bakery production from Goa to Maharashtra.

Freedom : (i) Freedom to practise any occupation of one's choice in any part of the territory of India. (ii) Freedom of movement.

(III) Action of C : 'C' found some lacunae in the new tax policy of the Government. He wrote an article about it and sent it to a newspaper for publication.

Freedom : Freedom of speech and expression.

Geography
Unit - I
Topic 7 : Soils

Q.1. (A) **(1)** hardness, climate **(2)** basalt
(3) weathering **(4)** biotic
(5) humus **(6)** vermicompost
(7) degradation **(8)** fertile
(9) Vidarbha **(10)** extreme rainfall

(B) (1) - (b), (2) - (c), (3) - (d), (4) - (a).

(C)

	Factors/Process	Role in the formation of soils
(1)	Parent Rock	**Turns into powdery material.**
(2)	Regional climate	**Weathering of rocks.**
(3)	Organic material	**Gets mixed with the soil and changes to humus.**
(4)	Micro-organisms	**Help to decompose the dead remains of organic materials.**

Q.2. (1) The Sahyadri have a humid climate. The leaching of the basalt rocks takes place because of the humid climate. This leads to formation of laterite soil.

(2) The vegetal litters, roots of plants and remains of animals etc., get decomposed due to water. In places where there is water and heat, microorganisms and certain other organisms help decompose the dead remains of organic materials at a faster rate. This gets mixed with the soil and humus is formed.

(3) The process of weathering of rocks and formation of soil depends on the climate of the region. In equatorial regions the climate is humid. When it is hot and wet, the formation of the soil process is much faster than in dry places like the Deccan. In humid places, leaching of the rocks takes place faster and soil is formed.

(4) Excessive irrigation draws the salts from the soil upwards and makes the soil saline. This saline soil then becomes unproductive. Excessive irrigation is bad for the soil.

(5) Konkan area in Maharashtra has laterite soil. This soil is fertile and the rainfall that Konkan gets is sufficient for the growth of rice. Hence, rice is the staple diet of the people of Konkan since the local agricultural produce determines the staple diet of the people.

(6) The top layer of the soil gets removed due to wind or water. This means that the soil gets eroded. Running water, climate and diversity in physiography are reasons of soil erosion.

(7) (a) The soil quality may get lowered due to various reasons. This is called as soil degradation. (b) To get higher yield of crops, we use chemical fertilizers, insecticides, weedicides, etc. (c) These along with spraying of chemicals lead to soil degradation. (d) Excessive irrigation makes the soil saline and unproductive. This leads to the lowering of humus content in the soil and plants do not get micro-nutrients.

Q.3. (1) (a) Soil has to be conserved since in many areas it is becoming infertile and is getting washed away.

(b) Soil conservation includes works like construction of embankments and planting trees on them, construction of gulley plugs against the steep slopes, etc.

(c) Such works are taken up by the Department of Soil Conservation.

(d) Continuous Contour Trenches (CCT) are constructed along slopes at different heights to check the velocity of water running along the slopes.

(e) The Government of Maharashtra has implemented the watershed development program along the slopes of rural areas under the title, "Arrest water, let it percolate."

(f) Recently the Government has launched a scheme called 'Jalayukt Shivar' for construction of farm bunds and arresting water of small streams.

(2) Decomposition of the remains of plants and animals can give us organic manure. The vegetal litters, roots of plants, remains of animals, faeces of animals, etc., get decomposed. This can be used as manure. Microorganisms and other organisms help decompose the dead remains of organic matter. Now-a-days production of vermicompost is undertaken on a large scale.

(3) We get information about suitability of a soil for a particular crop at the Agricultural office. The agricultural officer will visit the site and advise accordingly.

(4) Food crops, fruits and flowers are produced according to the type of soil found in that particular area. The regions where soils are fertile can be self-reliant as far as food production is concerned. For the production and growth of plants, soil is indispensable. It provides support to plants. Vegetation is abundant in regions that have fertile soil eg. the Equatorial region. However, in areas where the soil is not fertile, vegetation is scanty e.g., in deserts and where there is shortage of soil, vegetation is not seen eg., Polar areas. Fertile soil favours plant growth.

Q.4.

	Action	Effect	Results (w.r.t fertility)
(1)	Construction of embankments	**Raising of the ground water level reduces erosion**	**Soil and water used for cultivation**
(2)	**Planting of trees**	Wind speed decreased	**Reduces land erosion**
(3)	Farm land is kept fallow for some period	**Micro-organisms increase in the soil**	**Soil becomes fertile**
(4)	**Biotic material mixed with soil**	Humus content increased	**Soil becomes fertile**
(5)	Trenches are dug across a slope	**Checks the velocity of water running along the slopes Reduces soil erosion**	**Water percolates into the ground**
(6)	Litter is burnt in the farm	**Less decomposition in the soil**	**Fertility drops**
(7)	**Vegetal litters, roots of plants, remains of animals**	Proves favourable for micro- organisms	**Produces organic material to mix with the soil (humus)**
(8)	**Excessive irrigation**	Salt content in the soil increases	**Soil becomes saline and unproductive**

(9)	Chemical fertilizers used excessively	**Soil degradation**	**Soil becomes infertile due to loss of micro-nutrients**

Intext Question

(1) Laterite soil on the western coast and Regur soil all over occupies most of the area in Maharashtra.

(2) Along the western coast - Raigad, Ratnagiri and Sindhudurg and Gadchiroli.

(3) Regur or black soil is found in the river valleys of Maharashtra.

(4) Laterite soil is found in parts of the Sahyadri ranges.

(5) Alluvial soil is found at the mouth of the rivers in the western coastal strip e.g., the areas around Panvel - Uran coast, Dharamtar creek, etc.

Think about it !

(1) The climate of equatorial regions is hot and humid. Because of this climate vegetal litters decompose faster and make the soil fertile.

(2) In deserts the heat is tremendous and the rainfall is very low. Vegetation needs fertile soil, abundant water supply and favourable climate throughout the year. Hence, vegetation is sparse in the deserts.

Topic 8 : How Seasons Occur - Part 2

Q.1. (A) **(1)** Uttarayan **(2)** diurnal **(3)** perihelion **(4)** equinox **(5)** Solstice **(6)** 4 **(7)** India

(B) (1)-(c), (2)-(a), (3)-(d), (4)-(b).

(C) **(1)** It appears that the sun moves to the north or south in a year.

(2) Different parallels on the earth would have experienced the same climate throughout the year.

(3) The sun starts its southward journey from Tropic of Cancer on 21st June and northward journey from Tropic of Capricorn on 22nd December.

(4) Summer and winter.

Q.2. (1) Seasons occur due to the revolution of the earth around the sun, as well as due to the tilt of its axis of rotation. It is the tilt of the axis that leads to the occurrence of seasons.

(2) On equinox days, nighttime and daytime are of equal duration.

(3) Seasons have been decided on the basis of duration of sunlight, equinoxes and solstices. Hence, the climate in this region does not change at all and effects of seasons are not experienced.

(4) This is the case because the sun does not actually move, it is stationary in one place but this happens due to the earth's revolution around the sun and its rotation around its own axis.

(5) Penguins evolved to adapt to colder climate which prevents them from spreading to the other pole as the warmer climate between the poles is warmer.

Q.3. (1) The earth's velocity varies due to the gravitational forces of the sun and the earth.

(2) We can observe the apparent movement of the sun from both the hemispheres-north as well as south.

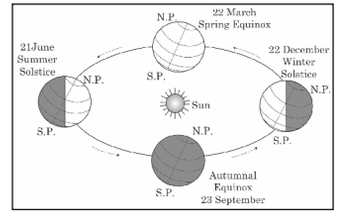
(3) The dates of equinox are the same every year i.e. 21st March and 23rd September.

(4) North Canada experiences winter from September to March.

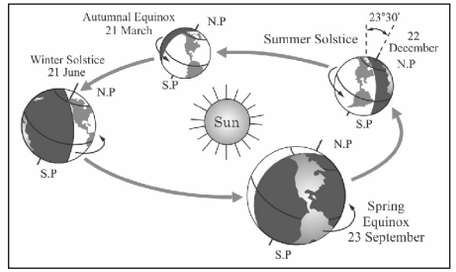
(5) South Africa and Australia have summer at the same time.

(6) Duration of daytime is the same on equinox days.

Q.4. The dates of Summer Solstice and Winter Solstice with respect to northern hemisphere are mentioned incorrectly.



Q.5. Cycle of seasons, equinoxes, solstices



Intext Question

(1) (a) Winter solstice on December 22nd.

(b) Spring equinox on March 21st.

(c) Summer solstice on June 21st .

(d) Autumnal equinox on September 23rd.

(2) Winter.

(3) Summer.

(4) Summer.

(5) The reason is that the sun does not appear in the same position in both the hemispheres.

The position of the rising sun keeps on moving towards the south from 21st June to 22nd December and towards the north from 22nd December to 21st June.

Use your brain Power!

(1) On 20th March sun crosses the equator and enters the northern hemisphere, so the North Pole will have sunrise on 21st March.

(2) Though India and England are located in the same hemisphere they lie on different latitudes due to latitudinal difference climatical conditions vary, so cricket matches in these two countries are arranged in different months.

(3) On 21st March and 23rd September, the equator receives perpendicular rays on two days in a year. On these days, both the poles are at the same distance from the sun. Everywhere on the earth nighttime and daytime are of equal duration. But the sunrays are perpendicular on the equator. The circle of illumination coincides with the great circle defined by two opposite meridians so some parts experience summer and some parts winter on these days.

(4) (i) Newzealand and Australia.

(ii) Newzealand stretches approximately between the latitudes 34°23'S and 47°12'S while Australia stretches approximately between the latitudes 10°20'S and 43°39'S.

(5) Due to the location and climatical condition Jammu and Kashmir have two capitals, i.e., the summer capital is Srinagar and the winter capital is Jammu.

During winter temperature goes down below 0°C in Srinagar it makes difficult for trade and administration, so they shift all their trade and administrative matters to Jammu in the winter which comparatively has lesser amount of cold.

Can you tell ?

(1) In Fig 'A' North pole is receiving sunlight.

(2) In fig 'B' North pole is not receiving sunlight.

(3) Northern hemisphere has longest daytime on 21st June.

(4) Northern hemisphere will have the longest night on 22nd December.

(5) On 21st June Tropic of Cancer will receive perpendicular sunrays.

(6) From 22nd March to 23rd September in the northern hemisphere it will be summer considering the position of North pole.

(7) Australia has summer between 23rd September to 21st March during that period only, cricket matches will be held in Australia. Australia being in Southern hemisphere weather conditions are just the opposite to the Northern hemisphere.

(8) Between 22nd March to 23rd September 'midnight sun' is observable in Norway and during this period it will be summer in Norway.

(9) Midnight sun will be visible at 'Bharti' research station of India at Antarctica between 23rd September to 21st March and it will be summer at that time.

Think about it !

(1) Towards the north.

(2) The changes in the atmosphere, vapour, in the air, the wind and the precipitation influences the seasons. Due to the local conditions seasons other than summer and winter are seen to occur in different parts so we have four seasons. Summer, rainy, the period of retreating monsoon and winter which affects human life, mainly agriculture. Some times excess rainfall affects the crops and human life. Scanty rainfall may bring drought, famine, etc.

Topic 9 : Agriculture

Q.1. (A) **(1)** Commercial **(2)** honey, wax
(3) pollination **(4)** cocoon
(5) Greenhouse **(6)** Intensive, shifting
(7) maximum
(8) Extensive grain farming, plantation agriculture
(9) cowdung, compost **(10)** vermicompost

Q.2. **(1)** (a) Intensive ☑
(2) (b) Use of animals, implements, machines and manpower. ☑
(3) (d) In India factors like climate, soils, water, etc., are conducive. ☑
(4) (c) Population is growing and there are agro-based industries. ☑

Q.3. **(1)** Water is one of the basic necessities of farming. We have seen that crops do not grow on land that is dry and gets no rainfall. Irrigation is supplying water from rivers or from stored water bodies such as tanks, nullas and canals to the fields where seeds can be sown and where these sown seeds can grow into crops. Without irrigation, crops will not grow. We cannot depend on the rain, since rain is a natural phenomenon. Water is a must for agriculture.

(2) Irrigation where water is brought from rivers and taken with the help of pipes, and irrigation where sprinklers are put in fields. This water is also from rivers and lakes, but here, the water does not get wasted because the sprinklers spray the water around. Both these types of irrigation are used a great deal today, since we are facing bad monsoon and water shortage.

(3) The major types of farming are Subsistence farming that comprises of intensive farming and shifting cultivation and commercial farming that is made up of extensive grain farming, plantation farming, market gardening and horticulture.

Intensive Farming - Gives maximum production from a minimum area. It is seen in developing regions. The farm production is low and the economic condition of the cultivator is also poor. Here mostly animated energy is used. Cereals and vegetables are grown.

Extensive Grain Farming - The size of the farm is more than 200 hectares. Farming is carried on with the help of machines and pesticides are sprayed with the help of helicopters. Monocrops such as wheat or corn or barley are grown. Heavy capital investment is needed to buy machinery, fertilisers, pesticides, etc. This type of farming faces problems of droughts, pest attacks and market fluctuations.

(4) The characteristics of plantation farming are :

(a) The farm size is 40 hectares or above.

(b) Local manpower is used since this type of plantation is on hilly tracts.

(c) It is a single-crop cultivation practice.

(d) It produces crops like tea, rubber, coffee, coconut, spices, etc.

(e) Needs large scale capital investment due to the long duration of crops, use of scientific methods, exportable production, etc.

(f) This type of production faces issues of climate, manpower, deterioration of environment, etc.

(g) Practised in India, South and Central America, South Asian countries, Africa, etc.

(5) In our areas, that is, Konkan area, we have rice crop grown. These places get good amount of rainfall during the monsoon season and rice needs a good amount of water. The summers are hot, hence the earth absorbs as much rain as possible during the monsoon season and stores the water that is used by the sown seeds. After the rice is harvested, watermelons are grown.

(6) In India, agriculture is seasonal because food crops need water and in India, it does not rain throughout the year, but for three to four months after the summer season.

Since, water is absolutely necessary to grow crops, in India, agriculture is seasonal.

The difficulties for perennial agriculture are -

(a) It is very difficult and sometimes impossible to get water throughout the year to have perennial agriculture.

(b) The ground loses its fertility and chemical fertilizers have to be used on the ground and also sprayed on the crops. This is very dangerous not only to the crops but also for people who are going to eat these crops as food items.

(7) Greenhouse farming : Greenhouse farming facilitates getting maximum product from the land. It can have a total control on natural factors like climate, heat, atmospheric moisture as well as soil moisture. It assists in getting maximum economic benefits. Greenhouse farming is a highly specialized type of farming of the modern era. For erecting a greenhouse, galvanized iron pipes and plastic sheets are used. Its main aim is to control the pest attack by controlling water, light and temperature. Green houses are used on larger scales for growing flowers like lily and gerbera to give maximum economic returns.

(8) (a) This type of cultivation is practised in tropics in densely forested areas of hilly tracts. (b) The land is cleared by cutting down trees and plants and removing grass and shrubs. (c) The cut trees etc., are dried out and burnt. The ash gets mixed with the soil and acts as manure. (d) Sowing and harvesting is done before the rainy season. (e) After the land loses its productivity after a couple of years, a different piece of land is chosen for cultivation.

(9) Marketing systems are necessary for making the goods produced by the farmers available to the consumer at a fair price and on time.

(10) (a) Agriculture in India is scattered over vast areas.

(b) All farmers are not organised.

(c) Some farmers are economically weak and cannot market their production on their own.

(d) Farm products are perishable.

The system of Agricultural Produce Market Committees is established to help farmers at the taluka level.

Intext Question

Use your brain Power!

(1) There is huge expenditure for the purchase of machinery, fertilizers, pesticides, godowns, transport cost, etc. Hence, extensive commercial farming needs more capital.

(2) This type of cultivation uses scientific methods, exportable production and processing. This cannot be done by villagers, hence experienced and skilled people are required to do the job well.

(3) (a) The nutrients that the soil provides for crops is sometimes not sufficient. These have to be replenished. Nutrients are used abundantly to increase the yield of the crop, hence organic fertilisers are prepared.

(b) They are prepared thus :

(i) Litter is decomposed in the ground.

(ii) Grasses such as jute and sesbania are buried in the soil to make manure.

(iii) Cow dung and compost manures are used.

(iv) Vermicompost is got from organic waste.

(c) When farming is done using all vestal matter mixed in the soil, it is called organic farming.

(d) Chemical fertilisers and pesticides are not used in this type of farming.

(4) Water is distributed across land by raising the water table through a system of pumping stations, canals, gates and ditches.

Give It A Try

(1) Using chemical spray over plants and crops can be poisonous and using chemicals to ripen the fruits in order to put them in the market for sale. Artificial chemicals and pesticides are employed profusely.

(2) Sprinklers, water pipes that carry water from rivers and lakes are used in our area.

(3) Yes, there is a lot of wastage. Flowing water pipes are put on the ground and the labourer just goes away to finish other jobs. In the meantime, water just gushes out of the pipe and makes the place wet, muddy and useless.

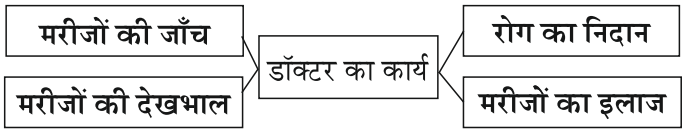
(4) Artificial pesticides and chemicals must not be allowed. These should be banned. Food on which such chemicals are used does not last long and can be poisonous.

The government has to look into this and send their representatives to fields to check out what type of fertilizers are being used. Cow dung, compost manure and vermicompost must be used.

हिंदी सुलभभारती

1. अस्पताल

प्र.1. (1)



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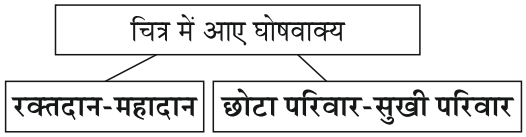

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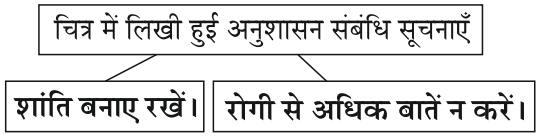


(3) (1) रुधिर, लहू, खून (2) आँख, नयन, चक्षु

(4) अस्पताल वह जगह होती है जहाँ शांत वातावरण में मरीजों की सही देखभाल की जाती है। अस्पताल में कुशल डॉक्टर और परिचारिकाएँ (नर्स) होती हैं। जिस तरीके से अस्पताल में किसी मरीज की देखभाल हो सकती है वैसी घर पर नहीं हो पाती। जाँच के लिए अलग-अलग मशीनें होती हैं। इन आधुनिक मशीनों के सहारे बिना पीड़ा के मरीज का इलाज संभव होता है। पीड़ा से व्याकुल मरीज अस्पताल आकर बहुत जल्द स्वस्थ होकर हँसते-हँसते घर लौटता है।

अस्पताल में अलग-अलग रोगों के तज्ज्ञ डॉक्टर होते हैं जो रोग का अचूक निदान कर उचित इलाज करता है। कई बार बीमारी संक्रामक होती है। ऐसे में घर पर इलाज घर के अन्य सदस्यों के लिए खतरनाक हो सकता है। ऐसे समय में अस्पताल में भरती होकर इलाज करना हितकारी होता है। अस्पताल में दिन हो या रात डॉक्टर और परिचारिकाएँ उपलब्ध होती हैं जो मरीजों की देखभाल तत्परता से करती हैं। ऐसी कई बातें हैं जो हमें अस्पताल का महत्त्व बताती है।

अभी-अभी पढ़ने में आया कि आत्महत्या करने वालों को एक बार अस्पताल में जाकर जीवन और मौत से संघर्ष करने वाले मरीजों को देखना चाहिए। जीने की जिजीविषा देखकर हो सकता है आत्महत्या का खयाल मन से निकल जाए। अस्पताल के दृश्य का यह संदेश सच में महत्त्वपूर्ण है।

स्वाध्याय

★ पाठ्यपुस्तक के पृष्ठ 27 पर अस्पताल का चित्र दिया गया है। चित्र में आई.सी.यू. (अतिदक्षता विभाग), वार्ड (कक्ष) और पूछताछ खिड़की दिखाई दे रही है। चित्र में अनेक सूचनाएँ नजर आ रही हैं। जिसमें 'रोगी से अधिक बात न करें।', 'शांति बनाए रखें।' जैसी सूचनाएँ शामिल है। 'नेत्रदान, रक्तदान-महादान', 'छोटा परिवार-सुखी परिवार' जैसे घोषवाक्य भी लिखे हुए है। अस्पताल में 'रोगी से मिलने का समय सुबह 8 से 10 और शाम 4 से 7 बजे तक' यह फलक भी नजर आ रहा हैं। सब कर्मचारी अपना कार्य करते नजर आ रहे हैं। चित्र में कूड़ा दान रखा दिखाई दे रहा है। डॉक्टर, परिचारिका और वॉर्डबॉय भी नजर आ रहे हैं। व्हीलचेअर पर बैठी एक मरीज को सलाइन की बोतल लगाई है। उसके साथ एक परिचारिका भी नजर आ रही है। पूछताछ खिड़की के सामने की कुर्सियों पर मरीज (दो आदमी और एक औरत) बैठे दिखाई दे रहे हैं।

उपक्रम (Activity)

(1) **सफाई -** सफाई है जहाँ, तंदुरुस्ती है वहाँ।

अस्पताल, स्वास्थ्यवर्धक भोजनसंबंधी घोषवाक्य विद्यार्थी स्वयं बनाए।

(2) कुछ दिन पहले मैं अपने मित्र से मिलने अस्पताल गया था। शहर के शोर शराबे से दूर निसर्गरम्य परिवेश में अस्पताल की भव्य इमारत थी। मैंने पूछताछ खिड़की पर पता लगाया और पहली मंजिल पर अपने मित्र को देखने गया। मैंने कमरे के भीतर देखा तो मित्र सो रहा था। वहाँ उपस्थित नर्स ने मुझे बताया कि मेरा मित्र अब खतरे से बाहर है, तब मुझे संतोष हुआ। थोड़ी देर मित्र के पास बैठकर मैं उठा और अस्पताल में एक चक्कर लगा आया।

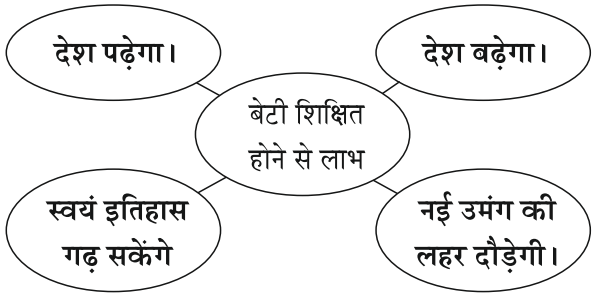
मैंने देखा कि जनरल वार्ड, स्पेशल वार्ड, ऑपरेशन थियेटर, इंटेंसिव केयर यूनिट, औषधालय ऐसे कई विभाग वहाँ थे। मुझे इस अस्पताल का शांत

वातावरण, सफाई और मरीजों की अच्छी देखभाल देखकर बहुत अच्छा लगा। काश! देश के सभी अस्पताल ऐसे होते!

(3) विद्यार्थी स्वयं कृती करें।

2. बेटी युग

प्र.1. (1)



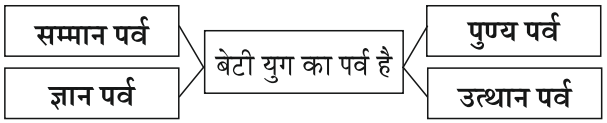
(2) (i) (1) **इरादे -** अपना इतिहास खुद किससे गढेंगे? अथवा किसे फौलादी कहा है?

(2) हमें कौनसी नई कहानी लिखनी है?

(ii) (1) दौर (2) नेक

(3) आज भी नानी द्वारा कही जाने वाली कथा-कहानियाँ सभी को पसंद आती हैं। अब हमें बेटी युग की नई कहानी मिलकर लिखनी है। आज के समय में बेटा और बेटी दोनों एक समान हैं, उन्हें पढ़ने लिखने का और आगे बढ़ने का समान अवसर भी मिलना चाहिए ताकि वे अपने फौलादी नेक इरादों से अपना नया इतिहास गढ़ सकें। पूरा देश पढ़ेगा और आगे बढ़ेगा और नई जवानी की तरंग भी दौड़ पड़ेगी।

प्र.2. (1)



(2) (i) (1) चिड़िया (2) सयानी

(ii) (1) उत्थान (2) हवा

(3) बेटी-युग एक ऐसा पर्व है जिसमें बेटियों को सम्मान मिलेगा। इस पर्व में बेटियों को शिक्षित करके सब पुण्य कमाएँगे। सभी शिक्षित होंगे तो एक-दूसरे का सम्मान करेंगे। इस तरह यह एक प्रगति का दौर होगा, जन-जन की प्रगति का दौर होगा और तब कभी सोने की चिड़िया कहलाने वाला यह देश समझदार कहलाएगा, बेटी युग की हवा में ऊँची उड़ान भरेगा।

प्र.3. (1) आनंद विश्वास

(2) बेटा शिक्षित आधी शिक्षा, दोनों शिक्षित पूरी शिक्षा।
हमने सोचा, मनन करो तुम, सोचो-समझो, करो समीक्षा।

(3) सिर्फ बेटा शिक्षित होगा तो शिक्षा पूरी नहीं होगी लेकिन बेटा-बेटी दोनों शिक्षित होंगे तो ही शिक्षा पूरी होगी। इस विचार पर कवि ने मनन करने के लिए, सोचने के लिए कहा है। क्योंकि बेटी शिक्षित होगी तो पूरा परिवार शिक्षित होता है। बेटा-बेटी दोनों शिक्षित होंगे तो समाज का, पूरे देश का विकास होगा। इन पंक्तियों द्वारा बेटियों की शिक्षा के महत्त्व को कवि ने प्रतिपादित किया है।

(4) लड़कों के साथ लड़कियों की शिक्षा भी महत्त्वपूर्ण है। बेटा-बेटी दोनों एक समान हैं, दोनों को पढ़ने-लिखने का और आगे बढ़ने का अवसर मिलना चाहिए। पूरा देश पढ़ेगा तो समाज प्रगति की ऊँचाईं पर चला जाएगा। बेटियाँ पढ़ेगी तो आत्मनिर्भर हो जाएगी। दुनिया में कोई अनपढ़ नहीं रहना चाहिए। सबको ज्ञान मिलना जरूरी है। यह संदेश इस कविता से मिलता है।

स्वाध्याय

प्र.1. (अ) (1) बेटी युग में **बेटा-बेटी, सभी पढ़ेंगे, सभी बढ़ेंगे। फौलादी ले नेक इरादे, खुद अपना इतिहास** गढ़ेंगे।

(2) बेटी युग **सम्मान पर्व है, पुण्य पर्व है, ज्ञान पर्व है। सब सबका सम्मान करें तो, जन-जन का** उत्थान पर्व है।

(आ) (1) सुहानी (2) शिक्षामय (3) चिड़िया।

(इ) (1) सत्य (2) असत्य (3) असत्य

प्र.2. (1) **बेटी पर्व :** बेटी युग एक ऐसा युग है जिसमें बेटियों को सम्मान मिलेगा। इस पर्व में बेटियों को शिक्षित करके सब पुण्य कमाएँगे। सभी शिक्षित होंगे तो एक-दूसरे का सम्मान भी करेंगे। इस तरह यह जन-जन की प्रगति का दौर होगा, हम सभी का, देश का उत्थान होगा। सोने की चिड़िया कहलाने वाला यह देश समझदार कहलाएगा और बेटी युग की हवा में ऊँची उड़ान भरेगा।

(2) **शिक्षामय विश्व :** बच्चों ने सारा जग शिक्षामय करने का निश्चय किया है। बेटा हो या बेटी अब कोई भी अनपढ़ नहीं रहेगा। सबके हाथों में पुस्तक होगी। ज्ञानगंगा की पावन धारा हर घर के आँगन तक पहुँचेगी। पुस्तक और कलम की शक्ति हर किसी को मिलेगी। ज्ञान का पर्व होगा और जन-जन का उत्थान होगा।

स्वयं अध्ययन

- वर्तमान दौर में यह बात सर्वमान्य है कि स्त्री को भी उतना ही शिक्षा का अवसर उपलब्ध होना चाहिए जितना कि एक पुरुष को है। यह बात सिद्ध सत्य है कि माता शिक्षित न होगी तो देश की संतानों का कदापि कल्याण संभव नहीं। इसलिए मराठी में एक कहावत है, 'जिच्या हाती पाळण्याची दोरी, ती सर्व जगा उद्धारी।'

  स्त्री शिक्षा का स्वयं पर प्रभाव स्त्री को स्वयं भी शिक्षा के प्रति रुचि रखनी चाहिए। शिक्षित होकर वह आत्मनिर्भर बनेगी। वह पुरुषों के साथ समानता का अधिकार प्राप्त कर सकेगी। वह एक सफल गृहिणी और कुशल माता बनेगी।

  एक शिक्षित माता का परिवार भी शिक्षित होगा। बच्चों का मानसिक विकास सही मायने में ऐसे परिवार में ही हो सकेगा। निराशा एवं शोषण के अंधकार से बाहर निकालने के लिए नारी शिक्षा एक महत्त्वपूर्ण कड़ी होगी। शिक्षित माता के बालक समाज में अपना कर्तव्य निभाने में सक्षम रहेंगे और समाज को प्रगति की ऊँचाइयों पर ले जाएँगे। समाज में नारी की प्रतिष्ठा बढ़ेगी।

  देश की हर नारी जब शिक्षा के पंख लगाकर आसमान छूने चलेगी तब देश को आगे बढ़ने में कोई नही रोक सकेगा। क्योंकि वह लक्ष्मी, सरस्वती ही नहीं बल्कि समय आने पर दुर्गा बनकर रक्षा करने के लिए भी आगे बढ़ेगी। एक जागरूक और सचेत नागरिक बनकर वह स्वयं का विकास करेगी, परिवार का विकास करेगी और देश का भी विकास करेगी।

'सजग, सचेत, सबल समर्थ
आधुनिक युग की नारी है।
ऊँचे-ऊँचे पद पर बैठी
सम्मान की अधिकारी है।"

विचार मंथन

- जन्म के बाद बेटियों को कई तरह के भेदभाव से गुजरना पड़ता है जैसे- शिक्षा, स्वास्थ्य, सुरक्षा, खान-पान, अधिकार आदि। लड़कियों के लिए जो पूर्वापार, नकारात्मक पूर्वाग्रह हैं उनको उस सकारात्मकता में बदलने के लिए महिला सशक्तिकरण आवश्यक है। परिवार और समाज की प्रगति में नारी शिक्षा एक महत्त्वपूर्ण कड़ी है।

  चिकित्सा शास्त्र के विकास ने गर्भ परीक्षा में लिंग पहचान कर कन्या भ्रूण हत्या के मार्ग खुले कर दिए थे। दहेज की कुप्रथा ने कई लड़कियों को जन्म लेने से पहले ही यमलोक पहुँचा दिया। कन्या भ्रूण हत्या का अंत करने के लिए और बेटियों को शिक्षित कर आत्मसम्मान के साथ जीने का अवसर देने हेतु 'बेटी बचाओ, बेटी पढ़ाओ' योजना की घोषणा प्रधान मंत्री मोदी जी ने की।

सदैव ध्यान में रखो।

★ जिस समाज में हम रहते हैं उस समाज का परिवर्तन हमारी वजह से ही संभव है। मुझे याद है उस दिन मैं रेल से यात्रा कर रही थी। मेरी बगलवाली सीट पर एक कॉलेज में पढ़ने वाली लड़की बैठी थी। मैंने चॉकलेट खाई और उसका रैपर खिड़की से बाहर फेंकने जा रही थी तभी उस दीदी ने मेरे हाथ से चॉकलेट रैपर तत्परता से छीन लिया और ऐसा फेंककर कचरा न फैलाने की बात समझाई। रैपर उसने अपने बैग के साईड पॉकेट में रख लिया। मुझे यह जिंदगी भर का सबक मिल गया। अब कुछ भी कचरा फेंकने से पहले मुझे दीदी की वह बात याद आती है और मैं अपना कचरा कूडेदान में ही फेंकने के लिए प्रतिबद्ध हो जाती हूँ। दीदी जैसा करके मैं अन्य बच्चों को सुधार सकती हूँ और धीरे-धीरे पूरा समाज बदल जाएगा। 'स्वच्छ भारत' मुहिम सफल हो जाएगी।

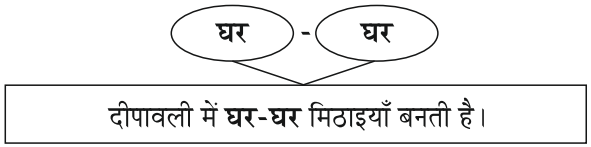
व्याकरण

भाषा की ओर

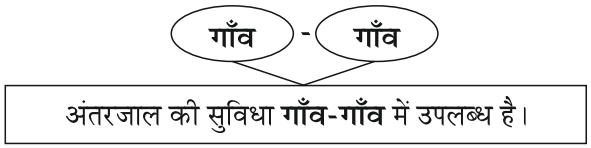
★ गाँव - **गाँव**, **इधर** - उधर, घूमना - **फिरना**, धन - **दौलत**,
जान - पहचान, कूड़ा - **कचरा**, **फल** - फूल, घर - **घर**।

(2)

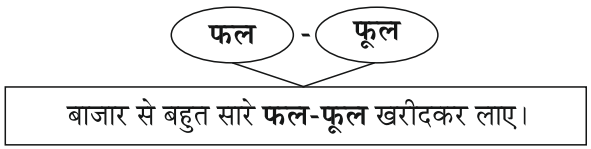
(3)



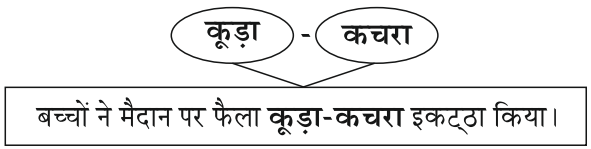
(4)



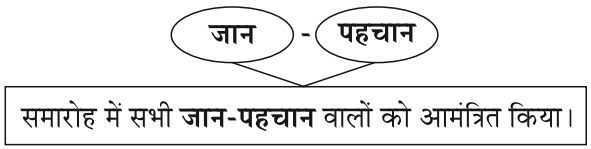
(5)



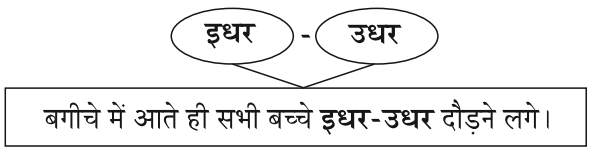
(6)



(7)



(8)



लेखन कौशल (Writing Skill)

(1) सर्वप्रथम तो मन में विचार आएगा इस बटवे को छूना भी नहीं चाहिए। क्या पता वह बटवा किसी मुसीबत का दरवाजा खोल दें। मन में कई भले-बूरे खयाल आएँगे। बटवा किसका होगा ? गलती से गिर गया होगा। उस बटवे के मालिक के पास उसका बटवा पहुँचाना चाहिए। अगर बटवे से कोई सुराग मिल जाए तो बटवा उसके मालिक तक पहुँचाना आसान होगा। पर इसके लिए बटवे को छूना पड़ेगा और खोलकर देखना पड़ेगा।

क्या पता किसी जेब कतरे ने बटवा चुराया हो और अंदर का माल निकालकर यहाँ डाल दिया हो। संभावना तो यह भी बनती है कि जेब कतरे के पीछे पुलिस लगी होगी और पकड़े जाने के भय से उसने बटवा यहाँ डाल दिया हो। मेरे हाथ में बटवा देखकर पुलिस मुझे जेबकतरा न समझ बैठे!

बटवे में बहुत सारे रुपए देखकर यह भी विचार आ जाता कि इन पैसों का सदुपयोग कैसे हो सकता है। पाठशाला के पुस्तकालय की किताबें खरीदी जा सकती हैं, गरीब बच्चों का परीक्षा शुल्क भरा जा सकता है, अनाथालय, वृद्धाश्रम के लिए कुछ दिया जा सकता है और उनकी मदद हो सकती है। लेकिन उन रुपयों को स्वयं पर खर्च करने का विचार एक बार भी नहीं आया।

(2) **'लड़का-लड़की एक समान, दोनों से ही घर की शान'**

आधुनिक युग में शिक्षित परिवारों में लड़का और लड़की में भेदभाव नहीं किया जाता। आज बेटियाँ भी माता-पिता के प्रति अपना कर्तव्य निभाने में पीछे नहीं रही। लड़कियाँ कहीं भी अपनी कोमल प्रकृति के कारण कमजोर नहीं पड़ी। शिक्षा, विज्ञान, विमान चालक, पुलिस, सेना आदि ऐसा कोई क्षेत्र नहीं जहाँ महिलाओं ने अपनी कुशलता का परिचय न दिया हो। अब समाज की सोच बदल रही है। बेटियों को भी बेटों के जैसे ही पढ़ाई लिखाई के और करियर बनाने के मौके मिल रहे हैं। हर क्षेत्र में लड़कियाँ लड़कों के साथ अपना परचम लहरा रही है। सरकार और समाज ने दोनों को बराबरी का दर्जा दिया है।

सुनो तो जरा

★ हमारे सभी उत्सव और व्रत ब्रह्मांड की खगोलीय घटना, धरती के वातावरण परिवर्तन, मनुष्य के मनोवैज्ञानिक तथा सामाजिक कर्तव्य को ध्यान में रखकर निर्मित किए गए हैं। जैसे-

(1) **मकर संक्रांति** - सूर्य के उत्तरायण पर जब वह मकर राशि में गमन करता है तो मनाया जाता है। हमारी धरती के सूर्य के प्रति धन्यवाद देने हेतु मनाया जानेवाला यह त्योहार है।

(2) **दीपावली** - बरसात के बाद घर सहित आसपास की दशा बिगड़ जाती है। दीपावली के बहाने घर का कोना-कोना साफ हो जाता है। बरसात के बाद पैदा हुए कीड़े-मकोड़े दिवाली के दीपों में जलकर मर जाते हैं जिससे वातावरण में हानिकारक किटाणुओं की समाप्ति होती है।

(3) **होली** - होलिका दहन के पीछे भी यही वैज्ञानिक कारण है। होलिका दहन प्रक्रिया से वातावरण का तापमान 145 डिग्री फॅरनाइट तक बढ़ जाता है जो हानिकारक कीटकों को मारता है।

(4) **नवरात्रि** - भारतीय ऋषी मुनियों ने दिन से भी रात्रि में पूजा-अर्चना को अधिक महत्त्व दिया है। क्योंकि दिन में आवाज लगाई जाए तो दूर तक नहीं पहुँचती किंतु रात्रि में बहुत दूर तक पहुँच जाती है। इसके पीछे दिन के कोलाहल के अलावा एक वैज्ञानिक तथ्य यह भी है कि दिन में सूर्य की किरणें आवाज की तरंगों और रेडियो तरंगों को आगे बढ़ने से रोक देती हैं। मंदिरों के घंटा और शंख की आवाज से दूर-दूर तक वातावरण कीटाणुओं से रहित हो जाता है यह रात्रि का वैज्ञानिक रहस्य है। इसीलिए दो बार नवरात्रि और एक महा शिवरात्रि मनाई जाती है।

वाचन जगत से

पुण्यश्लोक अहिल्याबाई होळकर इतिहास प्रसिद्ध सूबेदार होळकर के पुत्र खंडेराव की पत्नी थी। उन्होंने -

- कई जगहों पर मंदिर बँधवाए।
- भूखों के लिए अन्नछत्र खोले।
- मंदिरों में विद्वानों की नियुक्ति की।
- तीर्थस्थानों पर घाट बँधवाए।
- कुओं और बावड़ियों का निर्माण किया।

- कई सड़कों का निर्माण किया और कई सड़कों की मरम्मत की।
- आत्मप्रतिष्ठा के झूठे मोह का त्याग करके सदा न्याय का प्रयत्न करती रही।
- काशी, गया, सोमनाथ, अयोध्या, मथुरा, हरिद्वार आदि प्रसिद्ध तीर्थस्थलों पर धर्मशालाएँ खुलवाईं।

उपक्रम (Activity)

अध्ययन कौशल

★ विद्यार्थी स्वयं कृती करें।

3. दो लघुकथाएँ

प्र.1. (1)

	संज्ञा	विशेषण
(1)	मन	प्रसन्न
(2)	किस्से	प्रसिद्ध
(3)	अकबर	महान शासक
(4)	स्थान	हराभरा

(2) (i) (1) घोड़ा (2) बीरबल

(ii) (1) अकबर ने बीरबल को हरे रंग के घोड़े का प्रबंध करने का आदेश दिया।

(2) बीरबल ने अकबर के आदेश को सिर-आँखों पर रख लिया।

(3) (i) (1) सप्ताह (2) शासक

(ii) **हाथ** - हाथ धोकर पीछे पड़ जाना।, हाथ धोना।

पैर - पैर की धूल होना।, पैर पकड़ना।

(4) पिछली छुट्टीयों में मेरे परिवार के सभी सदस्य लोनावला-खंडाला गए थे। खंडाला बेहद छोटा-सा हिल स्टेशन हैं पर इसे प्रकृति की सुंदरता का वरदान मिला है। हर तरफ छाई हरियाली और पहाड़ हमें अपनी ओर आकर्षित

करते हैं। भूशी झील अपने आप में अनोखी है। यहाँ बिताया हर पल मन को सुकून देता है। यहाँ का शांत सुंदर माहोल मन को प्रसन्न कर देता है। बरसात के दिनों में यहाँ कई छोटे-मोटे झरने पहाड़ों से बहते हैं जिसकी फुहार मनमस्तिष्क को तरोताजा कर देती है। यहाँ के खुबसूरत पहाड़ हमारी थकान पलभर में गायब कर देते हैं और मन को शांति मिलती है।

पास में ही लोनावाला है। मान्सून में लोनावला और खंडाला दोनों की खूबसूरती उफान पर होती है। पहाड़ों से गिरते झरने, हरियाली, झीलों से घिरे इन स्थलों को बार-बार देखने को मन करता है। यहाँ का सूर्योदय, यहाँ का सूर्योस्त, यहाँ की चाँदनी रातें मन को सुख-चैन देते हैं। शायद यही वजह होगी कि मुंबई-पूना के सैलानी सप्ताहांत प्रकृति की गोद में बिताने के लिए यहाँ आना पसंद करते हैं।

प्र.2. (1)

चित्रकार की पत्नी ने चित्रकार के दरबार में फरियाद करने की सलाह दी। क्योंकि वह सोचती थी कि,

↓

बादशाह अकबर बहुत दयालु हैं।

↓

वे भले ही पढ़े-लिखे नहीं है परंतु बड़े बुद्धिमान हैं।

↓

उनकी सहायता के लिए दरबार में नौ-नौ रत्न हैं।

↓

अपने पति को न्याय जरूर मिलेगा।

(2) (i) (1) क्योंकि चित्रकार को लगा कि सेठ बड़ा आदमी है इसलिए लोग उसी की बात को सच मानेंगे और उसे न्याय नहीं मिलेगा।

(2) क्योंकि बादशाह ने जब सेठ और चित्रकार दोनों की बातें सुनी तो न्याय करना उन्हें मुश्किल लगा।

(ii) (1) बुद्धिमान (2) सेठ

(3) (i) दूसरे **दिन** उस **दीन** के भाग खुल गए।

(ii) मैंने सोचा **कि** मैं लोगों **की** मदद करने अवश्य जाऊँगा।

(4) यदि हम निर्दोष है। हमपर अन्याय हो रहा है तो उसके खिलाफ आवाज उठाना जरूरी है। हम निर्दोष होकर चुप बैठे तो सामनेवालों को गलतफहमी होती है। चुपचाप अन्याय सह लेनेवाला भी गुनहगार होता है। कोई गलत कर रहा है, किसीपर जुलुम हो रहा है तो उसकी गलती का अहसास कराना चाहिए और हम सही मार्ग से अन्याय का प्रतिकार करेंगे तो लोग भी हमारा साथ दे सकते है।

स्वाध्याय

प्र.1. (अ) (1) बीरबल की बुद्धिमानी की (2) बीरबल की दूसरी शर्त

(3) बादशाह अकबर के दरबार में (4) चेहरा बदलने में

(5) नौ-नौ रत्न

(आ) (1) जब बादशाह ने बीरबल की दूसरी शर्त सुनी तो वे बीरबल **का मुँह देखने लगे।**

(2) क्रोधित होकर उस चित्रकार ने सेठ से **सभी चित्रों के पैसे माँगे।**

(इ) (1) बीरबल की चतुराई पर बादशाह खुश हुए। ✓

(2) बीरबल की शर्तें बादशाह ने पूरी कर दीं। ✗

(3) सेठ बहुत ही कंजूस था। ✓

(4) चित्रकार की पत्नी बहुत लालची थी। ✗

(ई)

	व्यक्ति	गुण
(1)	सेठ	धूर्त
(2)	बीरबल	चतुर
(3)	बादशाह	न्यायी
(4)	चित्रकार की पत्नी	बुद्धिमान

प्र.2. (1) एक कंजूस सेठ ने चित्रकार से अपना चित्र बनवाया। जब चित्रकार ने पैसे माँगे तो सेठ ने उसे कहा कि चित्र ठीक नहीं है, उसे दोबारा बनाकर लाए। चित्रकार ने कई बार सेठ के चित्र बनाए लेकिन कंजूस सेठ हर बार कह देता कि चित्र ठीक नहीं है क्रोधित होकर चित्रकार ने सभी चित्रों के पैसों का तगादा किया तब सेठ ने पैसे देने से साफ मना कर दिया। अपना मेहनताना न मिलने के कारण चित्रकार परेशान हो उठा।

(2) बादशाह अकबर ने बीरबल की बुद्धिमानी की परीक्षा लेने के लिए बीरबल को हरे घोड़े का प्रबंध करने का आदेश दिया था। दोनों अच्छी तरह जानते थे कि संसार में हरा घोड़ा नहीं होता। परंतु बीरबल ने बादशाह से हरे घोड़े के मिल जाने की बात कही और दो शर्तें रखीं। पहली शर्त यह थी कि घोड़ा लेने बादशाह को स्वयं ही जाना होगा और दूसरी शर्त रखी कि घोड़े का रंग दूसरे घोड़े से अलग है, तो घोड़े को देखने का दिन भी अलग यानि सप्ताह के सात दिनों के अलावा होना चाहिए। 'हरे घोड़े' के प्रबंध की बात इस तरह बीरबल ने बड़ी चतुराई से टाल दी।

(3) घोड़े के मालिक की पहली शर्त यह है कि बादशाह को घोड़ा लेने वहाँ स्वयं ही जाना पडेगा और दूसरी शर्त यह है कि जब घोड़े का रंग दूसरे घोड़ों से अलग है तो घोड़े को देखने का दिन भी अलग होना चाहिए। यानि सप्ताह के सात दिन के अलावा किसी भी दिन बादशाह घोड़ा देख सकते है।

व्याकरण

भाषा की ओर

★ विद्यार्थी स्वयं कृती करें।

प्र.1. (अ) अचानक, अब, आखिर, उधर, सदैव, तत्काल, कभी-कभी, चारों तरफ, पहले, आगे, अवश्य, अंतत:, तुरंत, जब, वहाँ।

(आ) के नीचे, के प्रति, के पास, से बाहर, के भीतर, के विपरीत, के अनुसार, के दौरान, के जरिए, की तरह, के सामने, की तरफ, के कारण।

प्र.2. (अ) **एकवचन के शब्द** - घोड़ा, बात, सिर, मालिक, शर्त, सेठ, चित्रकार, चित्र, दरबार, मुश्किल, चेहरा, कला, संस्कृति, दर्पण, समस्या।
बहुवचन के शब्द - स्थान, पैसे, बातें, चित्र, कमियाँ, शर्तें, दिन।

(आ) **पुल्लिंग शब्द** - घोड़ा, शासक, मन, स्थान, समय, सप्ताह, बादशाह, संसार, आदेश, सिर, दिन, आश्चर्य, विश्वास, मालिक, इंतजार, मुँह, सेठ, चित्र, घर, न्याय, आदमी, रत्न, किस्सा, दरबार, चेहरा, नाटक, रास्ता, दर्पण, मेहनताना, दूध, पानी।
स्त्रीलिंग शब्द - हरियाली, सैर, बुद्धिमानि, परीक्षा, आँख, उत्सुकता, शर्त, चतुराई, मात, दमड़ी, परेशानी, बातें, पत्नी, फरियाद, सहायता, कला, संस्कृति, रक्षा, कमियाँ, चालाकी, समस्या, इज्जत।

प्र.3. (1) **सिर आँखों पर रखना - अर्थ :** स्वीकार करना
वाक्य : गुरु के आदेश को शिष्य ने सिर आँखों पर रखा।

(2) **मात देना - अर्थ :** पराजीत करना
वाक्य : भारतीय टीम ने क्रिकेट में श्रीलंका की टीम को मात दी।

(3) **मुँह लटकाना - अर्थ :** उदास होना
वाक्य : परीक्षा में कम अंक मिले इसलिए राज मुँह लटकाकर बैठ गया।

(4) **दूध का दूध, पानी का पानी करना - अर्थ :** सही न्याय करना
वाक्य : कल सरपंच ने दूध का दूध और पानी का पानी कर दिया।

लेखन कौशल (Writing Skill)

विचार मंथन

- 'सत्यमेव जयते' यह हमारे राष्ट्र का घोष वाक्य है। इसका अर्थ है सत्य की हमेशा जीत होती है। इस तथ्य को भली भाँति समझने वाले व्यापारी भी कभी नुकसान में नहीं जाते। प्राय: माना जाता है कि सच्चाई से कोई व्यापार लाभदायी नहीं होता। झूठ और बेईमानी व्यापार के पर्यायवाची शब्द मानने वालों को यह कहानी जरूर पढ़नी चाहिए और सबक सीखना चाहिए।

  स्व. जमनालाल बजाज उन दिनों रुई का व्यापार करते थे। उनके साथ दूसरे व्यापारी भी थे। दूसरे व्यापारियों ने अधिक कमाई के लालच में रुई में पानी छिड़ककर गाँठें बाँधना शुरू किया। इससे उन्हें दो लाभ दिख रहे थे - एक तो कुछ वजन बढ़ जाता था और रुई लंबे तार वाली दिखाई देने से ऊँचे दाम भी मिल जाते। परंतु थोड़े समय पश्चात पानी सूख जाने पर रुई खराब हो जाती थी। जब विदेशी व्यापारियों को इस चालाकी का ज्ञान हुआ तो वे कम कीमत में माल

खरीदने लगे। पानी न मारने वाले व्यापारी प्रतिस्पर्धा में टिक न सके। श्री जमनालाल जी के मुनीम को भी चिंता हुई और उन्होंने जमनालाल जी को रुई में पानी मारने की सलाह दी। लेकिन जमनालाल जी ने साफ मना कर दिया। फिर समझौता करते हुए उन्होंने कहा पानी मारकर जो गाँठें बेची जाएँगी उन पर W.I.C. मार्क लगाया जाए और बिना पानी वाली गाँठों पर B.J. लिखा जाए। इसके साथ ही उन्होंने अपने मुनीम को परचे बाँटने का आदेश दिया कि W.I.C. का अर्थ पानी मारी हुई गाँठें और B.J. वाली गाँठें बिना पानी की हैं। यह बात विदेशी व्यापारियों से भी छिपी नहीं। वे B.J. मार्क वाली गाँठें ऊँचे दाम देकर खरीदने लगे। इस तरह सच्चाई के कारण उनके माल की माँग भी बढ़ी और उनकी आमदनी भी बढ़ी।

इस घटना से पता चलता है कि सत्य का फल हमेशा मधुर होता है।

अध्ययन कौशल

★ **प्रस्तावना** - श्रोताओं को संबोधित करते हुए विषय निवेदन करना चाहिए जैसे कि, सम्माननीय अध्यक्ष, प्रमुख अतिथि गण, शिक्षक वृंद और मेरे प्रिय साथियों आज आपके सामने स्वतंत्रता दिवस के अवसर पर अपने विचार प्रकट करना चाहता हूँ।

विषय प्रवेश - आजादी का महत्त्व, अंग्रेजों से मुक्ति मिली, परंतु देश की अन्य समस्याएँ ..... भ्रष्टाचार, गरीबी, भेदभाव आदि से निजात पाने के उपाय।

उद्धरण, सुवचन – 'तन समर्पित मन समर्पित
रक्त का कण कण समर्पित
चाहता हूँ राष्ट्र की धरती
तुझे कुछ और भी दूँ।'
'जन्मभूमि स्वर्ग से भी श्रेष्ठ है।'

स्वमत : भारत के उज्ज्वल भविष्य के लिए हम सबको वचनबद्ध होना है। वतन को नई ऊँचाई पर पहुँचाने के लिए मिलकर प्रयास करने की जरूरत है। **विद्यार्थी आगे लिखने की कोशिश करें।**

भाषण विद्यार्थी स्वयं तैयार करें।

सुनो तो जरा

✤ **रसगुल्ले की जड़**

एक बार राजा कृष्णदेवराय के यहाँ एक अरबी व्यापारी आया था। राजा के रसोइए ने उसके लिए रसगुल्ले बनाए थे। उस व्यापारी ने रसोइए से कहा, "मुझे रसगुल्ले नहीं खाने हैं, पर तुम यह तो बताओ कि इन रसगुल्लों की जड़ कहाँ है?" रसोइया सोच में पड़ गया। राजा कृष्णदेवराय भी निरुत्तर हुए। तब उन्होंने व्यापारी के सवाल का हल तेनालीराम को ढूँढ़ने को कहा। तेनालीराम ने एक दिन का समय माँगा।

दूसरे दिन तेनालीराम एक कटोरी को कपड़े से ढँककर दरबार में ले आए और व्यापारी को कटोरी देते हुए बोले, "कपड़ा हटाकर देख लो, मैं रसगुल्ले की जड़ें लाया हूँ।" कटोरी में गन्ने के टुकड़े थे । तेनालीराम ने अपने तर्क से सिद्ध भी किया कि रसगुल्ले में रस होता है जो शक्कर से बनता है और शक्कर गन्ने से बनती है। इसलिए रसगुल्ले की जड़ गन्ना ही है। उनके इस तर्क से राजा कृष्णदेवराय और अरबी व्यापारी दोनों खुश हुए। अपनी चतुराई से तेनालीराम ने रसोइए की मुश्किल हल कर दी।

बताओ तो सही

बादशाह अकबर के दरबार में नौ गुणवान दरबारी थे जिन्हें कालांतर में अकबर के नवरत्न के नाम से जाना गया। उनके नाम नीचे लिखे हैं -

(1) **अबुल फजल** : अकबर के शासन की प्रमुख घटनाओं को इन्होंने कलमबद्ध किया है। अकबरनामा और आइन-ए-अकबरी के रचयिता हैं।

(2) **तानसेन** : अकबर के दरबार के विलक्षण संगीतज्ञ थे।

(3) **बीरबल** : अकबर के सलाहगार

(4) **टोडरमल** : अकबर के वित्तमंत्री

(5) **मानसिंह** : अकबर की सेना के प्रधान सेनापति थे। इनकी बहन जोधाबाई अकबर की पटरानी थी।

(6) **अब्दुल रहीम खान-ऐ-खाना** : कवि रहीम जो हिंदी साहित्य के प्रसिद्ध कवि हैं।

(7) **फकीर अजिओं दिन :** अकबर के सलाहगार

(8) **मुल्लाह दो पिअजा :** अकबर के सलाहगार

(9) **फैजी :** अबुल फजल के भाई थे। जो फारसी में कविता लिखते थे और जिन्हें अकबर ने अपने बेटे के गणित शिक्षक के पद पर नियुक्त किया था।

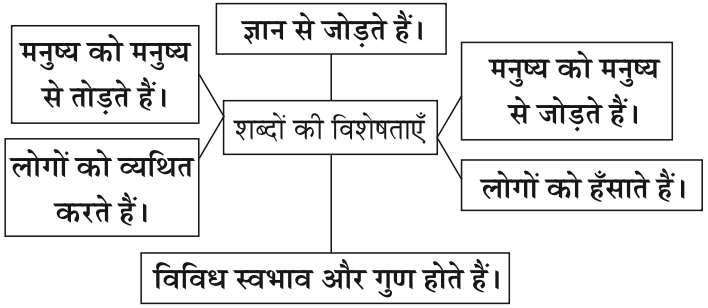
उपक्रम (Activity)

★

राज्य का नाम	शैली का नाम
राजस्थान	राजपूत शैली जिसमें मेवाड़ी, मारवाड़ी, जयपुरी, बीकानेरी, तथा बूंदी शैली में बने चित्र हैं।
बिहार	मधुबनी
महाराष्ट्र	वारली
जम्मू-कश्मीर	पहाड़ी चित्रकला शैली जिस में गुलेरी, गड़वाल, जम्मू तथा कांगड़ा शैली हैं।
प. बंगाल	कंपनी शैली
पंजाब, बंगाल, उड़ीसा	जैन शैली
बंगाल, बिहार	पाल शैली, गौड़ शैली
दक्षिण भारत	द्रविड़ शैली
अजंता की गुफाएँ (महाराष्ट्र)	बौद्ध शैली
उड़ीसा	पट चित्रकारी
आंध्र प्रदेश	कलमकारी

4. शब्द संपदा

प्र.1. (1)



(2) (i) (1) मनुष्य शब्दों को अर्थ देता है और जीवंत बनाता है। ✓

(2) मनुष्य स्वभाव के जितने विभिन्न नमूने हैं उतने शब्दों के स्वभाव के नहीं। ✗

(ii) (1) शब्द ही मनुष्य को मनुष्य से जोड़ते हैं और **शब्द ही मनुष्य को मनुष्य से तोड़ते हैं।**

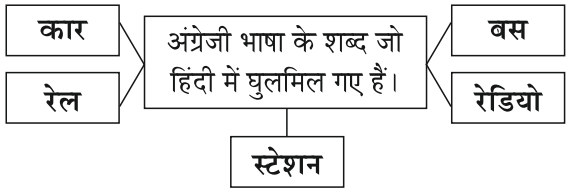
(2) कुछ लोग औरों को हँसाने का काम करते हैं, वैसे **कुछ शब्द लोगों को हँसाते हैं।**

(3) (i) (1) तोड़ना (2) रुलाना

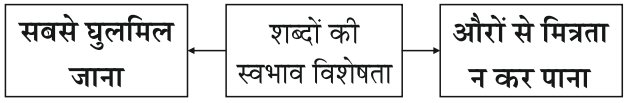
(ii) (1) विज्ञान (2) विभिन्न

(4) अपने विचार और भावनाओं को व्यक्त करने के लिए हमें शब्दों की आवश्यकता होती है। शब्द हमारे चरित्र, बुद्धिमत्ता, समझ और संस्कारों को दर्शाते है; इसलिए उनके उच्चारण से पूर्व हमें सोचना चाहिए क्योंकि शब्दों में बहुत ताकत होती है। शब्द ही मनुष्य को मनुष्य से जोड़ते हैं और शब्द ही मनुष्य को मनुष्य से तोड़ते हैं। कुछ शब्दों के कारण सामनेवाला व्यक्ति व्यथित होता है तो कुछ शब्दों से लोग हँसते है; खुश होते हैं इसलिए किस समय, किस प्रकार के शब्दों का प्रयोग करना चाहिए यह ध्यान में रखना बहुत जरूरी होता है। अनुचित शब्दों का प्रयोग हमेशा हानिकारक होता है। कई बार गलत जगह पर गलत शब्दों का चयन करने से मनोरंजक स्थिती भी बन जाती है तो कभी रिश्तों में दरार पड़ सकती है। इसलिए शब्दों की शक्ति को ध्यान में रखते हुए हमें शब्द प्रयोग के लिए सावधानियाँ बरतनी होगी।

प्र.2. (1)



(2) (I)



(ii)

द्रविड़ परिवार तक सीमित रहना।	तमिळ भाषा के शब्दों की विशेषताएँ	**किसीसे न घुलना, मिलना।**

(3) (i) (1) परतंत्र (2) शत्रु

(ii) (1) अस्तित्व (2) स्वभाव

(4) खिचड़ी भाषा का अर्थ बहुत सारी भाषाओं का मिश्रण। जरूरत न होने पर अन्य भाषाओं के शब्दों का प्रयोग करना अनुचित है। बहुत बार हम बातें करते समय किसी और भाषा के शब्द इस्तेमाल करते है। अधिक मात्रा में अंग्रेजी शब्दों का प्रयोग हम करते हैं क्योंकि शुरू से ही हम सभी को व्यवहार में उन शब्दों का प्रयोग करना सुलभ होता है जैसे प्लॅटफॉर्म, टेबल आदि। कभी कभी मिश्र भाषा बोलने के कारण अर्थ का अनर्थ होता है। सुननेवाले को बात करने वाले व्यक्ति की बात समझना मुश्किल होता है। जब हम कोई भी भाषा बोलते है तो वह शुद्ध होनी चाहिए। भाषा की मिठास और पवित्रता रखने के लिए यह ध्यान रखना जरूरी है। हर एक भाषा महत्त्वपूर्ण है और उनकी अलग खासियत है। हम खुद शुद्ध भाषा बोलने का प्रयास करेंगे तो आनेवाली पीढियों पर भाषा के अच्छे संस्कार हो कर उनकी भाषा विकसित हो सकती है। विविध भाषाओं का ज्ञान हमें होना चाहिए लेकिन उनका प्रयोग उचित जगह पर करना ही भाषा का सम्मान है।

स्वाध्याय

प्र.1. (अ) (1) ज्ञानशाखाओं (2) उच्चारण (3) निष्क्रिय

(4) समृद्ध (5) हानिकारक

(आ) (1) क्योंकि मनुष्य ने अपनी बुद्धि के बल पर भाषा की खोज की ।

(2) क्योंकि मनुष्य शब्दों को अर्थ देकर जीवंत बनाता है और उनके जीवंत हो जाने पर उनमें मनुष्य के विविध स्वभाव, गुण आने लगते हैं।

(3) क्योंकि वे शब्द बहुत प्रिय होते हैं।

(4) क्योंकि शब्द हमारे चरित्र, बुद्धिमत्ता, समझ और संस्कारों को दर्शाते हैं।

(5) क्योंकि उससे शब्द संपदा बढ़ाने में मदद मिलेगी।

प्र.2. (1) भाषा का अर्थ है - सार्थक शब्दों का व्यवस्थित क्रमबद्ध संयोजन। मनुष्य एक विचारशील प्राणी है। उसने अपने मस्तिष्क से भाषा की खोज की। यह भाषा ही सभी प्रगति की जड़ है। दुनिया की सभी ज्ञानशाखाओं का विकास भाषा के कारण ही संभव हुआ।

(2) शब्दों के बाहर जाने और अन्य अनेक भाषाओं के शब्दों के आने से हमारी भाषा समृद्ध होती है। कुछ शब्दों का स्वभाव ही ऐसा होता है कि वे अन्य भाषा के शब्दों में घुलमिल जाते हैं। कुछ शब्द ऐसे भी होते हैं जो भिन्न भाषाओं के मेल से बनते हैं, जैसे - वर्षगाँठ - संस्कृत और हिंदी भाषा के शब्दों का मेल है, तो रेलयात्री अंग्रेजी-हिंदी भाषा के शब्दों का मेल है और कुछ शब्द उनके मूल रूप में ही आ जाते हैं। विशेषत: वे शब्द जिनके लिए हमारे पास प्रतिशब्द नहीं होते जैसे पेंसिल, रेडियो आदि। इस तरह शब्दों के आने से भाषा समृद्ध बनती है।

(3) शब्दों के बारे में लेखक ने बताया है कि शब्दों का संसार बड़ा विचित्र है। शब्द मनुष्य को ज्ञान से जोड़ते हैं। शब्द मनुष्य को मनुष्य से जोड़ते हैं और शब्द ही मनुष्य को मनुष्य से तोड़ते हैं। विज्ञान की नजर में वे सिर्फ ध्वनि चिह्न हैं पर मनुष्य उन्हें अर्थ देकर, जीवंत बनाता है और उनमें विविध स्वभाव गुण आने लगते हैं। वे मनुष्य को हँसाते भी हैं और दुखी भी करते हैं। कुछ शब्द ऐसे भी होते हैं जिन्हें बार-बार सुनने की इच्छा होती है। ऐसी अनोखी है यह शब्दों की दुनिया।

(4) शब्द भंडार जितना अधिक उतनी भाषा समृद्ध मानी जाती है। कुछ भाषाओं के शब्द किसी दूसरी भाषा से मित्रता कर लेते हैं और उन्हीं में से एक बना जाते हैं। हिंदी के कुछ शब्द मिलनसार हैं और अन्य भाषाओं के मेल से बने हैं। कुछ हिंदी-संस्कृत से तो कुछ हिंदी और अरबी / फारसी से तो कुछ अंग्रेजी और संस्कृत के मेल से बने हैं। शब्दों के इस प्रकार बाहर जाने और अन्य अनेक भाषाओं के शब्दों के आने से हमारी भाषा समृद्ध होती है। ऐसे शब्द जिन्हें हमारी भाषा में प्रतिशब्द न हो उन शब्दों को भाषा में सहर्ष स्वीकार करने से भाषा समृद्ध ही होगी।

(5) कमसे कम शब्दों में बोलना और लिखना एक कला है। यह कला विविध पुस्तकों के वाचन से और परिश्रम से साध्य हो सकती है। किस समय, किसके सामने, किस प्रकार के शब्दों का प्रयोग करना चाहिए इसे अनुभव, मार्गदर्शन के अलावा वाचन द्वारा भी सीखा जा सकता है। शब्दसंपदा बढ़ाने के लिए साहित्य के वाचन की जरूरत होती है। अत: अपनी वाचन संपदा बढ़ाने के लिए वाचन संस्कृति को बढ़ाना आवश्यक हैं। जितनी हमारी वाचन संस्कृति बड़ी उतनी ही विशाल शब्द संपदा के हम मालिक बन जाएँगे।

सदैव ध्यान में रखो।

★ हमारी पोशाक और चालढ़ाल का प्रभाव समाज पर जरूर पड़ता है लेकिन वह स्थायी नहीं होता। मधुर शब्दों के कारण वह स्थायी बनता है। शब्द ही हैं जो हमारी शिक्षा, चरित्र, संस्कारों को दर्शाते हैं, शब्द भय का परिमार्जन करते हैं और विश्वास उत्पन्न करते हैं। परंतु बुरे वचन मनुष्य को रुष्ट कर देते हैं। कटु वचन शस्त्र से भी गहरे घाव उत्पन्न करते हैं और शस्त्र के घाव तो भर भी जाते हैं लेकिन शब्दों के घाव हमेशा रिसते रहते हैं, कभी नहीं भरते। इसलिए शब्दों का प्रयोग सावधानी से करना चाहिए। यह तो हुई बोलते समय शब्दों के प्रयोग की बात।

लिखते समय तो और भी ध्यान रखना चाहिए क्योंकि मात्रा की छोटी सी गलती अर्थ का अनर्थ कर देती है। इसके कई उदाहरण हम प्रत्यक्ष देख चुके हैं, जैसे कि दिन-दीन या सुख-सूख।

जरा सोचो ..... चर्चा करो

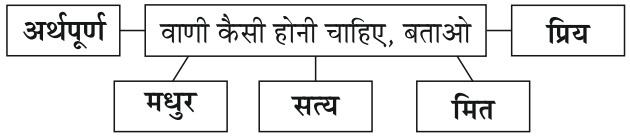
★ पशु-पक्षी बेजुबान हैं ऐसा नहीं। वे अपनी भाषा में मतलब बोलियों में बोलते भी हैं परंतु हम उन्हें समझ नहीं पाते। अगर समझ पाते तो उनकी जुबान से रोज हमें मनुष्य के दुष्कर्मों की कहानियाँ ही सुनने मिलतीं। पाप-पुण्य की बातें करने वाले हम मनुष्य मानते हैं कि किसी को बेघर करना सबसे बड़ा पाप है और अपने स्वार्थ की खातिर हम पाप पर पाप किए जा रहे हैं।

जंगलों की अंधाधुंध कटाई करके हम उनके घर उनसे छीन रहे हैं। फिर वे गाँव शहर में आ जाते हैं तब मनुष्य उन्हें मार भगाता है। वनों में उन्हें खाने-पीने को चारा उपलब्ध होता है। उनके मुँह से हम निवाला भी छीन रहे हैं। बेचारे वन से बाहर आकर हमारे फैले प्रदूषण में जी भी नहीं पाते। न खा-पी सकते हैं न सो पाते हैं।

अब वे शिकायत करें भी तो किससे करें? बेचारे मौसम की मार झेलते हुए मौत को गले लगा लेते हैं। भूख, प्यास से जूझते हुए दम तोड़ देते हैं। मनुष्य को संवेदनाहीन, निष्ठूर, क्रूर, स्वार्थी इस तरह के ताने ही हम उनकी जुबान से सुनते अगर उनकी बोलियाँ समझ पाते। 'अज्ञान में भी सुख होता है' इसलिए अच्छा है कि हमें उनकी बोली नहीं समझती। परंतु उनके संरक्षण के लिए सरकार के साथ-साथ जनता को भी आगे आना है ताकि पर्यावरण संतुलन बना रहे और पशु-पक्षी और मनुष्य की जीवन नैया हँसते-खेलते पार हो जाए।

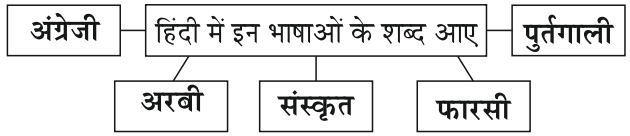
स्वयं अध्ययन

(1)



(2) भाषा की परिभाषा **सार्थक शब्दों का व्यवस्थित क्रमबद्ध संयोजन ही भाषा है।**

(3)



व्याकरण

(1) लक्ष्मी **मिल** यहाँ से दस **मील** दूरी पर है।

(2) **प्राण** छोड़ दूँगा पर **प्रण** नहीं छोडूँगा।

(3) **हंस** को देखकर रुचिका **हँस** पड़ी।

(4) शब्द **कोश** में **कोष** शब्द मिलता है।

(5) **दिन** रात **दीन**-दुखियों की सेवा करना सभी का कर्तव्य है।

(6) नदी के **कूल** का **कुल** जल समेटा नहीं जा सकता।

(7) **दीया** दीवाली में जलाकर देहरी पर रख **दिया।**

(8) बालक **पिता** से पानी **पीता** है।

(2)

अंग्रेजी	हिंदी - फारसी	संस्कृत
पेंसिल	थानेदार	मस्तिष्क
स्कूटर	किताब घर	सज्जन
बस	जरूरत	पूर्णत्व
रेल	दोस्ती	क्रमबद्ध
रेडियो	अलबत्ता	ध्वनि
डैडी	तकलीफ	सभ्य

(3) (1) दरार पड़ना - दूरी बढ़ना।

वाक्य - रुपयों-पैसों के कारण दो भाइयों के बीच **दरार पड़ गई।**

(2) अनाप-शनाप बोलना - निरर्थक बातें करना।

वाक्य - क्रोध में शीला **अनाप-शनाप बोल रही थी।**

लेखन कौशल (Writing Skill)

★ कौआ काको धन हरै कोयल काको देत।
तुलसी मीठे वचन के जग अपनो करी लेते।

अर्थात कौआ और कोयल दोनों का रंग काला है परंतु वाणी में अंतर है। कौआ कर्कश बोलता है और दूसरों के क्रोध का पात्र बनता है जबकि कोयल मीठा बोलती है इसलिए दुनिया उसके आवाज की दिवानी बन जाती है। इन दोनों का उदाहरण देकर तुलसीदास जी ने हमें मधुर भाषण की सलाह दी है।

वास्तव में मधुर वाणी औषधि के समान होती है और कटु वाणी तीर के समान घायल करने वाली। एक मधुर शब्द दो रूठे हुए को मना लेता है तो एक कटु शब्द दो मित्रों को हमेशा के लिए दूर कर देता है। कटु वचन बोलने वाले पर कभी कोई विश्वास नहीं करता। कटु वचन बोलने वाले के सामने कोई भी अपना हृदय नहीं खोलता और मधुर बोलने वाले के सामने लोग अपना हृदय खोलकर रख देते हैं। अपने मन की बात आसानी से कह देते हैं।

बाणभट्ट जब मृत्युशय्या पर थे तब उनकी अधुरी पुस्तक पूरी करने की जिम्मेदारी अपने बेटे पर सौंपना चाहते थे। उन्होंने अपने बेटों को खिड़की से बाहर दिखने वाले एक वृक्ष का वर्णन करने को कहा। बड़े बेटे ने कहा, "शुष्कं काष्ठ तिष्ठत्यग्रे।" और छोटे बेटे ने कहा, "निरस तरुवर विलसति पुरत:।" बात एक ही

थी। लेकिन छोटे बेटे की बात में माधुर्य था इसलिए उन्होंने छोटे बेटे को अपनी पुस्तक पूरी करने का भार सौंपा।

एक ही बात मधुर शब्दों में कही जा सकती है और कटु शब्दों में भी। लेकिन हर कोई मधुर वचन ही सुनना पसंद करता है। इसलिए संत कवि कबीर कहते हैं, "ऐसी वाणी बोलिए, मन का आपा खोय। औरन को शीतल करे, आपहु शीतल होय।।"

इस प्रकार मधुर वचन हमें आत्मिक सुख भी पहुँचाते हैं।

सुनो तो जरा

(1) यह उद्देशिका संविधान के उद्देश्यों को प्रकट करने हेतु प्राय: प्रस्तुत की जाती है। भारतीय संविधान की उद्देशिका अमेरिकी संविधान से प्रभावित तथा विश्व में सर्वश्रेष्ठ मानी जाती है। यह संविधान का सार मानी जाती है तथा उसके लक्ष्य को प्रकट करती है।

भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक **संपूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य** बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक **न्याय,**

विचार, अभिव्यक्ति, विश्वास, धर्म

और उपासना की **स्वतंत्रता,**

प्रतिष्ठा और अवसर की **समता**

प्राप्त कराने के लिए,

तथा उन सब में

व्यक्ति की गरिमा और राष्ट्र की एकता

और अखंडता सुनिश्चित करने वाली **बंधुता**

बढ़ाने के लिए

दृढ़संकल्प होकर **अपनी इस संविधान सभा में** आज तारीख 26 नवंबर, 1949 ई. (मिति मार्गशीर्ष शुक्ल सप्तमी, संवत् दो हजार छह विक्रमी) **को एतद् द्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।**

(2) विद्यार्थी स्वयं कृती करें।

प्रकल्प

खोजबीन

(1) धीरे-धीरे रे मना, धीरे सबकुछ होय।
माली सींचे सौ घड़ा, ऋतु आए फल होय।।

(2) माटी कहे कुम्हार से तू क्या रौंदे मोय।
एक दिन ऐसा आएगा, मैं रौंदूँगी तोय।।

(3) गुरु गोविंद दोनो खड़े, काके लागू पाय।
बलिहारी गुरु आपनो, गोविंद दियो मिलाय।।

(4) साई इतना दीजिए, जा में कुटुंब समाय।
मैं भी भूखा ना रहूँ, साधु न भूखा जाए।।

(5) बड़ा हुआ तो क्या हुआ, जैसे पेड़ खजूर।
पंची को छाया नहीं, फल लागे अति दूर।।

अध्ययन कौशल

★ (1) **अंतरजाल :** गूगल पर हमारे कई प्रश्नों के उत्तर बड़ी आसानी से उपलब्ध होते हैं। परंतु गूगल का उपयोग स्मार्ट फोन, टैबलेट या लैपटॉप, कंप्यूटर हो तो ही संभव है। अत: इनमें से कोई एक और साथ में इंटरनेट होना आवश्यक है।

(2) **संदर्भ ग्रंथ :** पुस्तकालय की किताबें जानकारी का अच्छा साधन होती हैं। इन किताबों को पढ़कर अपनी टिप्पणी बना सकते हैं या विशिष्ट पन्नों की झेरॉक्स लेकर अपने पास फाईल में संकलन कर सकते हैं।

(3) **अखबार या पत्र-पत्रिकाएँ :** इनको पढ़कर हम जानकारी प्राप्त कर सकते हैं और आवश्यक जानकारी के फुटनोट बनाकर रख सकते हैं या खुद की खरीदी पत्र-पत्रिकाओं के पन्ने कतरकर अपने पास फाईल करके संकलित कर सकते हैं।

(4) किसी व्यक्ति का भाषण, अध्यापक द्वारा बताई बातें या दूरदर्शन पर देखीं, सुनीं बातें भी हमें जानकारी दे सकती हैं। अर्थात उनके भी नोटस् बनाकर रखने से ही वह जानकारी काम आएगी। क्योंकि समय के साथ जानकारी का विस्मरण होना प्राकृतिक है।