



A Book of Environmental Studies Planet

5



Solution Manual



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Shifting of Families



EXERCISE

A. Tick (3) the correct option.

- Which of these is the reason for the people to move from one place to another?
(a) Driving ☐ (b) Eating ☐ (3) (c) Marriage ☐
- The movement from one place to another is called:
(a) migration (3) (b) journey ☐ (c) retirement ☐
- The people who migrate from their own native country to another are called:
(a) emigrants (3) (b) immigrants ☐ (c) migration ☐
- People move from one country to another is called _____ migration.
(a) international (3) (b) domestic ☐ (c) none of these ☐
- Which of the following is not the reason for migration?
(a) In search of better job opportunities. ☐
(b) For higher education. ☐
(c) For marriage by women. (3)

B. Fill in the blanks with correct words.

emigrants, family, banjaras, flood, cyclone, international migration

- Our **family** is very important for us, as it fulfils all our basic needs.
- The people who migrate from their native country to another are called **emigrants**.
- If the people move from one country to another, it is called **international** migration.
- Banjaras** move from one place to another because they do not like to settle down at one place.
- Sometimes natural disasters like **flood** and **cyclons** displace people.

C. Write True or False.

- When people move from one country to another, it is an international migration. **True**

2. Jobs like in the defence forces, army, police and some other government jobs are not transferable. **False**
3. The people who migrate from their native country to another are called immigrants. **False**
4. The group of banjaras move in search of better job opportunities and higher education. **False**
5. A good family has values that make it strong and close-knitted. **True**

D. Give one word for each of the following.

1. The movement from one place to another. **Migration**
2. It gives us emotional and financial security. **Family**
3. Jobs that are transferable in nature. **Transferable jobs**
4. The groups of people who do not like to settle down at one place. **Banjaras**
5. The reason for women migrating with their husbands and in-laws. **To be a housewife**

E. Match the following.

- | | | |
|----------------------------|---|--|
| 1. Migration | — | a. Migration from native country |
| 2. Migrants | — | b. Movement from one country to another |
| 3. International migration | — | c. Movement from one place to another |
| 4. Emigrants | — | d. People who settle down |
| 5. Immigrants | — | e. Movement from one place to another frequently |

F. Answer the following questions.

1. There are many reasons for people to migrate other cities, like transfer of jobs to other cities, in search of work etc. These are some reasons to migrate.
2.
 - The people who migrate in the country where they settle down are known as immigrants.
 - The people who migrate from their native country to another are known as emigrants.
3. Examples of transferable jobs are : better employment opportunities in cities, job transfer and promotions in car company, IT sectors etc.

4. Banjaras are the group of people who move from one place to another in search of food and shelter as they do not like to settle down at one place. They are also called gypsies.
5. Good values are :
 - (i) Live with honesty and dignity.
 - (ii) Share things with others.
 - (iii) Love, affection and cooperation should always be maintained in a family.
 - (iv) Respect other castes and religions.
 - (v) Respect our elders and be a good citizen and human being.

They are important for all of us because these values help us to grow into good citizens of the country and as good human being.

2

Our Likes and Dislikes

EXERCISE

A. Tick (3) the correct option.

1. We like things which are:

(a) unpleasant	<input type="checkbox"/>	(b) unattractive	<input type="checkbox"/>	(c) satisfactory	<input checked="" type="checkbox"/>
----------------	--------------------------	------------------	--------------------------	------------------	-------------------------------------
2. People with impairment of speech are called:

(a) deaf	<input type="checkbox"/>	(b) dumb	<input checked="" type="checkbox"/>	(c) blind	<input type="checkbox"/>
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3. Nausea is also known as:

(a) sneeze	<input type="checkbox"/>	(b) hiccup	<input type="checkbox"/>	(c) allergy	<input type="checkbox"/>
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4. Sign language is used by:

(a) blind	<input type="checkbox"/>	(b) Injured	<input type="checkbox"/>	(c) deaf and dumb	<input checked="" type="checkbox"/>
-----------	--------------------------	-------------	--------------------------	-------------------	-------------------------------------
5. He developed the Braille script:

(a) Louis Pasteur	<input type="checkbox"/>
(b) Alexander Fleming	<input type="checkbox"/>
(c) Louis Braille	<input checked="" type="checkbox"/>

B. Fill in the blanks with correct words.

mentally, warmth, coldness, Helen Keller,
physically, like, dislike, blind

1. The **like** and **dislike** differ from person to person.
2. **Helen Keller** is a great writer.

3. Our sense of touch lets us feel the **warmth** or **coldness** of a thing.
4. Braille script is used by **blind** people.
5. One may either be **mentally** or **physically** challenged.

C. Write True or False.

- | | |
|---|--------------|
| 1. We like unpleasant and unattractive things. | False |
| 2. We like a warm welcome but dislike dishonour. | True |
| 3. A fair person is not as able as a dark one. | False |
| 4. Everybody likes sweets and spicy food. | True |
| 5. Mentally challenged person is not a challenged person. | False |

D. Match the following.

- | | | |
|----------------------|---|----------------------|
| 1. Visually impaired | — | a. Pop and rock |
| 2. Hearing impaired | — | b. Signs and symbols |
| 3. Speech-impaired | — | c. Classical music |
| 4. Low-pitched | — | d. Hearing aids |
| 5. High-pitched | — | e. Braille |

E. Answer the following questions.

1. One is unique because their fingerprints, facial structure to intelligence and self-confidence are different. Even they tend to have psychological and emotional differences make one unique.
2. It does not matter being judge person for their colour like fair or dark. It depends upon the sense of sight and judgement of people being judge for their colour not for quality. Some people do like qualities rather than colour like fair or dark.
3. Voice of ones affects his personality because our sense hearing recognise persons by their high or low voice or sound. Many like a person with soft and soothing sound but dislike one with harsh voice. It also helps us to recognise by voice whether that person is a boy or a girl.
4. As our sense of smell lets us know and feel a thing by its good or bad smell. Either a sweet or a strong smell, or a fresh or a musty smell may be one of our likes or dislikes which help us to taste food good, sweet, bitter etc.
5. There are different challenges faced by disabled or special persons :
 - (i) Deaf person face hearing power as they can't listen anything.
 - (ii) Visually challenged people face the visual power as they can't see anything.
 - (iii) Dumb people face to speak something as they can't speak anything.

These are some challenges faced by differently disabled people.

3 Play Time



EXERCISE

A. Tick (3) the correct option.

1. Which of the following is an individual game?
 (a) Skating ☒ (b) Hockey ☐ (c) Cricket ☐
2. Men and women play together in:
 (a) individual games ☐
 (b) team games ☐
 (c) mixed doubles ☒
3. The head of a team is called the:
 (a) player ☐ (b) captain ☒ (c) master ☐
4. Mallakhamb is a traditional form of:
 (a) kabaddi ☐ (b) wrestling ☐ (c) gymnastics ☒
5. Kabaddi is a/an :
 (a) outdoor game ☒ (b) indoor game ☐ (c) individual game ☐

B. Fill in the blanks with correct words.

Cricket, Gudu, Vallamkali, games, sports, individual

1. **Games** and **Sports** are very essential for good health.
2. Games that can be played by a single person are called **individual** games.
3. **Cricket** is an outdoor team game.
4. Kabaddi is popularly known as **Gudu** in Sri Lanka.
5. **Vallamkali** is held in Kerala every year during Onam.

C. Write True or False.

1. Games played in the open fields or courts are called indoor games. **False**
2. Games and sports are very essential for good health. **True**
3. A national team consists of players from only one part of the country. **False**
4. Cricket, football, basketball and rugby are examples of team games. **True**
5. Working together with energy and passion towards a common goal is called team spirit. **True**

D. Give one word for each of the following.

- | | |
|------------------------------------|----------------------|
| 1. Type of ground to play kushti | Akhada |
| 2. An art of self-defence | Martial Art |
| 3. Martial art practised in Kerala | Kalaripayattu |
| 4. Popular boat race of Kerala | Vallamkali |
| 5. Team game | Cricket |

E. Answer the following questions.

1. The games which can be played inside the houses like ludo, chess, carromboard without any physical activity of whole body are games whereas games played outside the house like cricket, football, badminton, polo are sports because they are usually played by our body physically also played for competition among different teams.

2.	<table><tr><th>Team Game</th><th>Individual game</th></tr><tr><td>(i) They are played together with other player in more number.</td><td>(i) They are played by only one player.</td></tr><tr><td>(ii) They are different in number in different games.</td><td>(ii) They are mostly like 1 or 2 in number in many games.</td></tr><tr><td>(iii) Games are football, cricket, rugby, basketball etc.</td><td>(iii) Games are badminton, T.T, chess, skating, cycling etc.</td></tr></table>	Team Game	Individual game	(i) They are played together with other player in more number.	(i) They are played by only one player.	(ii) They are different in number in different games.	(ii) They are mostly like 1 or 2 in number in many games.	(iii) Games are football, cricket, rugby, basketball etc.	(iii) Games are badminton, T.T, chess, skating, cycling etc.
Team Game	Individual game								
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3. Some games have been played in our country since ancient times. Such games are called traditional games such as kabaddi, kushti, vallamkali etc.
4. The nature of traditional game changed due to the change in lifestyle, culture, environment, development etc. Lide kushti is know an Indian game known as Indian wrestling which is now playing at national or international level.
5. Team spirit is understood as the spirit that makes the player want their team to succeed also a willpower to win the match, tournament, series, trophies etc.

Breathing

EXERCISE

A. Tick (3) the correct option.

1. The process by which we breathe in air is called:
- (a) inhalation ☒ (b) exhalation ☐ (c) diaphragm ☐

2. What is an elastic band made up of muscular tissue?
 (a) Ribcage ☐ (b) Diaphragm ☒ (c) Lungs ☐
3. While sleeping, we breathe:
 (a) fastly ☐ (b) slowly ☒ (c) less ☐
4. What does a doctor use to listen to the sound of our heartbeat?
 (a) Stethoscope ☒ (b) Thermometer ☐ (c) Injection ☐
5. What carries oxygen to all parts of the body?
 (a) Blood ☒ (b) Lungs ☐ (c) Diaphragm ☐

B. Fill in the blanks with correct words.

breathing, oxygen, nostrils, breathe, muscular tissue

1. **Oxygen** is needed to break down digested food.
2. **Breathing** is the process by which we take in oxygen and give out carbon dioxide.
3. The diaphragm is an elastic band made up of **muscular tissue**.
4. The openings in the nose are called **nostrils**.
5. We use our **breathe** to make hot things cold and cold things hot.

C. Write True or False.

1. The normal temperature of the body is 99.7°F. **False**
2. The doctor uses a stethoscope to listen to our heartbeat. **True**
3. The speed of breathing changes with different activities. **True**
4. Our ribcage protects the lungs. **True**
5. The human heart on an average beats about 60 times in a minute. **False**

False

D. Answer the following questions.

1. The process by which we breathe in air is called inhalation. We breathe air or oxygen both our nose and mouth which goes through the windpipe into a pair of bag-like structure located in our chest called lungs and exchange of gas takes place.
2. There is a need to breathe well because well breathe helps to grow better also oxygen helps to burns the food we eat and gives us energy. It maintains our respiratory system, our body etc.
3. We always breathe in through the nose and not the mouth because. The openings in the nose are called nostrills. The nose has hair that act as filters and do not let dust particles enter your lungs.
4. The diaphragm moves down and the lungs become large when the air is taken in or during inhalation. Whereas when we breathe out or

during exhalation, the diaphragm relaxes and moves up, pushing the air outward and lungs become smaller.

5. We use our breathe to make hot things cold and cold things hot :
 - (i) We blow on a glass of hot milk to make it cold.
 - (ii) In winters, we blow on our palms to keep them warm.
 - (iii) We blow gently on a fire to help it burn.

5

Work People Do

EXERCISE

A. Tick (3) the correct option.

1. We are dependent on these people to make our lives easier and more:

(a) difficult	<input type="checkbox"/>	(b) serious	<input type="checkbox"/>	(c) comfortable	<input checked="" type="checkbox"/>
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2. A person who looks after a garden:

(a) gardener	<input checked="" type="checkbox"/>	(b) plumber	<input type="checkbox"/>	(c) electrician	<input type="checkbox"/>
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3. A person who looks after the electrical jobs:

(a) plumber	<input type="checkbox"/>	(b) electrician	<input checked="" type="checkbox"/>	(c) driver	<input type="checkbox"/>
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4. A person who keeps the school clean:

(a) plumber	<input type="checkbox"/>	(b) sweeper	<input checked="" type="checkbox"/>	(c) electrician	<input type="checkbox"/>
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5. Dignity of labour give respect to all kinds of:

(a) charity	<input type="checkbox"/>	(b) help	<input type="checkbox"/>	(c) labour	<input checked="" type="checkbox"/>
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B. Fill in the blanks with correct words.

high, sweepers, dignified, hands, self-help, respectful

1. **Sweepers** sweep our roads.
2. We should not treat any job **high** or low.
3. Dignity of labour applies to the work we do with our **hands**.
4. All types of work are **dignified** and **self-helps**.
5. Labour also gives us **respectful** lessons.

C. Match the following.

- | | | |
|----------------------|---|-----------------------------------|
| 1. Gardener | — | a. Helps with household chores |
| 2. Maid servant | — | b. Respecting every profession |
| 3. Sweeper | — | c. Waters plants and remove weeds |
| 4. Dignity of labour | — | d. Worship |
| 5. Work is | — | e. Keeps streets clean |

D. Write True or False.

- | | |
|--|--------------|
| 1. We should treat worker with respect. | True |
| 2. We should not pluck flowers. | True |
| 3. In the past, people who did lowly jobs were treated very badly. | True |
| 4. Discrimination is a good thing. | False |
| 5. Dignity of labour means every work should be considered low. | False |

E. Define the following:

- | | |
|----------------|-------------------------------|
| 1. Gardener | Who look after a garden. |
| 2. Driver | Who drive buses, cars. |
| 3. Electrician | Who did all electrical work. |
| 4. Plumber | Who did all taps, pipe works. |
| 5. Sweeper | Keeps the streets clean. |

F. Answer the following questions.

1. The workers provide essential services are :
 - (i) Neeraj is the school gardener. He is very strict and not allow to pluck flowers.
 - (ii) Rohit is the driver of school bus and all children fond of him.
 - (iii) Ritu looks after little nursery children and helps them around the school.
 - (iv) Meera accompanies the children in the school bus.They do their and provide essential services of their jobs.
2. All work is important because we are dependent on each other works and people which helps to make our life easier and more comfortable.
3. Sweepers are very important and helpful to us because they keeps the road, ground, schools, offices clean because without them it is impossible to keep the places clean. They act as a clean worriers against dirt and garbage and makes our country proud by slogan. Swach Bharat, Swasth Bharat.
4. Treating some people differently from others on the basis of their work and caste is called discrimination. We should not discriminate anyone and respect all and their work.
5. It is the duty of every individual to work for the upliftment and betterment of the society and realising that no work should be consider low is dignity of labour.



Animals and Their Senses



EXERCISE

A. Tick (3) the correct option.

1. Which of the following animals have antennae?
(a) Ant ☒ (b) Cat ☐ (c) Dog ☐
2. Why do female glow-worms make a series of flashes?
(a) To communicate ☒
(b) To feel ☐
(c) To look beautiful ☐
3. Gorillas stick out their tongue to:
(a) enjoy ☐
(b) show anger ☒
(c) show politeness ☐
4. Which of the following can spot a mouse in a field from high up in sky?
(a) Owl ☐ (b) Eagle ☒ (c) Snake ☐
5. A tiger sleeps for at least:
(a) 20 hours ☐ (b) 16 hours ☒ (c) 3 hours ☐

B. Fill in the blanks with correct words.

antennae, dolphin, whiskers, snakes, nocturnal

1. Ants smell with their **antennae**.
2. Cats use their **whiskers** to feel the change in the air.
3. **Nocturnal** animals are active at night.
4. **Snakes** do not have external ear openings.
5. A **dolphin** sleeps for 10 hours in a day.

C. Write True or False.

1. Hyena makes a mad laughing sound. **True**
2. Dogs have a weak sense of smell. **False**
3. Taste receptors are present on antennae of butterflies. **False**
4. Fish have whiskers. **False**
5. Frog has long sticky tongue that helps him to capture prey. **True**

D. Match the following.

- | | |
|-----------------------------------|-----------------|
| 1. Insect release chemical called | a. 20 hours |
| 2. Honeybee | b. 2-4 hours |
| 3. Grazing animals | c. waggle dance |
| 4. Brown bat | d. 10 hours |
| 5. Dolphin | e. pheromones |

E. Answer the following questions.

- Whiskers help the cats to feel its way through the dark and detect movements. These are also used to judge the width of narrow spaces.
- Insects release chemical called pheromones, through special glands that help them to communicate with other insects.
- Bats and dolphins both makes a sound which hits the obstacle and returns as an echo. This is how it finds out the distance and direction of the obstacle or dark water or complete darkness.
- Crocodiles have the receptors of the size of the tip of a pencil-dototed mainly around their jawline. These receptors enable them to sense the presence, movement and location of animals through vibrations in the water.
- Different animals have different ways of communicating with one another :
 - Female glow-worms make a series of flashes to communicate with the males.
 - Some animals create a unique sound to communicate with others such as a dog barks, a wolf howls, a bird chirps and a frog crooks.
 - Hyena makes a mad laughing sound that the other hyenas follow while hunting.
 - Chimpanzees greet each other by touching hands.

Animals and Their Useful Products

EXERCISE

A. Tick (3) the correct option.

1. Horses are used to play games like:
- (a) polo ☐ (b) horse racing ☒ (c) golf ☐

2. Wool is obtained from:
 (a) sheep ☒ (b) snake ☐ (c) silkworm ☐
3. Which of the following are cow and buffalo herders?
 (a) Madaris ☐ (b) Snake charmers ☐ (c) Gujjars ☒
4. Animals are being killed for:
 (a) meat ☒ (b) horse racing ☐ (c) golf ☐
5. Which of these animals are used in the circus?
 (a) Tiger, lion and elephant ☒
 (b) Goat and sheep ☐
 (c) Fish and bird ☐

B. Fill in the blanks with correct words.

charmers, honey, milk, extinct, meat

1. We are dependent on goats, cows, buffaloes for **milk**.
2. The flesh of goat and hen are eaten as **meat**.
3. **Honey** is obtained from hives of honeybees.
4. Snake **charmers** are people who catches a snake and trains it.
5. Animals that have lost their existence are called **extinct** animals.

C. Write True or False.

1. We are not dependent on goats, cows, buffaloes, sheep and camels for milk. **False**
2. Tusks are used to make medicine. **False**
3. Donkey is very useful animal. **True**
4. Domestic animal should be treated with love and care. **True**
5. People who save animals are called poachers. **False**

D. Answer the following questions.

1. Humans are dependent because animals offer with foods and many other things like milk from the cow and buffalo which contains fat help us to grow well, eggs, meat, honey are also animal products. They carry lot of importance in our lives.
2. Animals are trained for entertainment purpose in many ways :
 (i) Snake charmers who catches a snake trains snake to dance by swaying his flute rhythmically for entertainment.
 (ii) Madaris catch mokeys and beans and train them to dance to entertain people.
 (iii) Mahouts keep and train elephants for rides and to perform in circus, marriage, religious processions etc.

3. One of the finest, lightest and warm variety of wool obtained from Tibetan Antelope commonly known as Chiru.
4. (i) We should not cut down forests for the selfish needs of a man.
(ii) We should not kill wild animals for their body part.
(iii) Domestic animals should be treated with love and care with clean shelter and donkeys and mules should not be overworked or overloaded.
(iv) We should adopt stray animal and take care or feed them.
5. The illegal hunting of animals for their body parts is called poaching. Some animals are targetted by poachers.

8

Growing Plants

EXERCISE

A. Tick (3) the correct option.

1. Bryophyllum reproduces through:
(a) stems ☐ (b) roots ☐ (c) leaves ☒
2. Mushroom reproduces through:
(a) spores ☒ (b) roots ☐ (c) seeds ☐
3. Which of them is a dicotyledon?
(a) Pea ☐ (b) Bean ☐ (c) Both of them ☒
4. The new root which emerges from the embryo is called:
(a) plumule ☐ (b) radicle ☒ (c) cotyledon ☐
5. Which of the following is not an agent of dispersal.
(a) water ☐ (b) wind ☐ (c) soil ☒

B. Fill in the blanks with correct words.

seed coat, roots, bryophyllum, embryo, sycamore

1. **Embryo** is the baby plant inside the seed.
2. Seeds like **sycamore** having wings to carry them away.
3. **Roots** help in reproduction.
4. The outer covering of the seed is **seed coat**.
5. Leaves of **bryophyllum** grow buds on their edges.

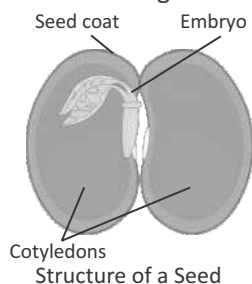
C. Write True or False.

1. Mango, rice and wheat grow from seeds. **True**
2. Warmth is not essential for the baby plant. **False**

3. The scattering of seeds to far-off places is called germination. **False**
4. Roots help in reproduction. **True**
5. Tea plant grows well where the air is warm, humidity is low and there is no rainfall. **False**

D. Answer the following questions.

1. The process of giving birth to young ones is called reproduction. Plants do reproduce from seeds, spores, body parts of the mother plants.
2.
 - **Seed** : The reproductive part of a plant is known as seed.
 - **Germination** : The process by which seed grows into a seedling is called germination.
 - **Dispersal** : The scattering of seeds to far-off places is called dispersal.
 - **Vegetative Propagation** : Reproduction of plant from their other body parts is called vegetative propagation.
3. Structure of seed consist of seed coat, cotyledon and embryo :
 - (i) **Seed coat** is the hard, outer covering of the seed that protects the seed leaves.
 - (ii) **Cotyledons** are the seed leaves which provide food to the baby plant or embryo and also protect it. *e.g.*, seeds like rice and wheat have one cotyledon are monocotyledon seeds like rajma and peanuts have two cotyledons are dicotyledons.
 - (iii) **Embryo** is the baby plant inside the seed and when condition are favourable, it forms a seedling.



4. The scattering of seeds to far-off places is called dispersal of seeds. Agents of dispersal are : wind, water, animal, and explosion.
5. Condition essential for a seed to germinate are suitable conditions of air, water, and warmth for better further growth for a embryo.



Forests and Tribals of India



EXERCISE

A. Tick (3) the correct option.

- Tribals are also known as:
(a) early men ☐ (b) agencies ☐ (c) adivasis ☒
- The Bhils live in:
(a) Tripura ☒ (b) Assam ☐ (c) Tamil Nadu ☐
- Removal or destruction of large areas of forests is called :
(a) social forestry ☐ (b) afforestation ☐ (c) deforestation ☒
- Van Mahotsav is celebrated in the month of :
(a) August ☐ (b) June ☐ (c) July ☒
- Chipko Movement was started in:
(a) 1987 ☐ (b) 1982 ☐ (c)-1972 ☒

B. Fill in the blanks with correct words.

archers, Munda, Chipko movement, forests, adivasis

- Forests** includes herbs, shrubs, wild plants and flowers.
- Tribals are known as **adivasis**.
- The Bhil are known to be excellent **archers**.
- The **munda** is a Chotanagpur plateau tribe.
- Chipko movement** was a successful step in preventing the cutting of trees.

C. Write True or False.

- Forests provide shelter to various kinds of animals. **True**
- The word 'Bhil' means bow. **True**
- The word 'Gond' means desert. **False**
- Birsa Munda was a freedom fighter. **True**
- Van Mahotsav is a festival of deforestation. **False**

D. Answer the following questions.

- Forests are very important for us because :
(i) They absorb CO_2 and releases O_2 which living beings breathe in.
trees purify and cools the air.

- (ii) They help to increase rainfall and help in the maintenance of rainwater which forms into ground water.
 - (iii) Forests provide shelter to various animals, provide medicines, fruits, control the soil erosion.
2. A tribe is a group of individuals who share common ancestry, history, culture and often language and are distinguished by their distinct culture, social and political characteristics. Likes, Bhils, Gonds, Munda etc.
 3. Effects of deforestation :
 - (i) Deforestation causes soil erosion and makes the land infertile.
 - (ii) Animals lose their homes when we cut down forests.
 - (iii) Landslides, floods, warmer climate are common in deforested area.
 4. Government and many agencies are working hard to save forests. Many steps have been taken like Govt. of India and state government have set up many wildlife sanctuaries and national parks where plants and animals are safe. Govt. also formulate the concept of social forestry in which trees are planted on waste land, road side etc. A type of festival is also celebrated van mahotsav in which people plant trees and plants in more no.
 5. Chipko movement was a successful step in preventing the cutting trees which was started in 1972 in the Gharwal himalayas under the leadership of Chandi Prasad Bhatt with Gauradevi, Sudesh Devi and Sunderlal Bahuguna who hugged tree to prevent from cutting down by contractor and saved the tree.

10 Production of Food



A. Tick (3) the correct option.

1. The practice of growing crops even of vegetables and fruits is called :
 - (a) farming ☐ (b) hunting ☐ (c) cultivation ☒
2. Commercial farming is done on a large scale for :
 - (a) profit ☒ (b) loss ☐ (c) charity ☐

3. The small farmer grows a crop on a small piece of land :
 - (a) commercial farming ☐
 - (b) subsistence farming ☒
 - (c) mixed farming ☐
4. Which tool is used for sowing seeds?
 - (a) Seed drill ☒ (b) Sprayer ☐ (c) Leveller ☐
5. Removal of the chaff from the grains with the help of wind:
 - (a) storage ☐ (b) winnowing ☒ (c) harvesting ☐

B. Fill in the blanks with correct words.

silos, winnowing, sowing, commercial, leveller

1. **Commercial** farming is done on a large scale.
2. The soil is pressed with the help of a **leveller**.
3. The process of putting the seeds in the soil prepared for cultivation is called **sowing**.
4. The process of separating grain from chaff is called **winnowing**.
5. Large containers used for storing grains are called **silos**.

C. Write True or False.

1. The first step taken by the farmers to grow crops in the field is harvesting. **False**
2. Irrigation is done with the help of tube wells, wells, tanks, and sprinklers. **True**
3. After the crops have ripened, they need to be harvested. **True**
4. Dried grains are stored in containers or sacks. **True**
5. Harvesting is done by sickles. **True**

D. Answer the following questions.

1. The type of farming in which the small farmer grows a crop on a small place of land for his personal use is subsistence farming. Whereas the type of farming is done on a large scale to sell the produce for profit in the market is commercial farming.
2. To grow crops in a field, the very first step taken by the farmers is to prepare the soil. The process of loosening the soil by using plough (wooden or iron) and harrow is known as preparation of the soil.
3. The unwanted plants which restricts the growth of crops are called weeds. They are removed by the process of weeding and also weedicides are used to control the growth of seeds.

4. The process of watering plants by means other than rainfall through sprinklers, tube wells is known as irrigation.
5. The process of cutting mature crop plants is called harvesting whereas the process of separating grain from chaff after harvesting is called winnowing.

11

Food and Digestion



EXERCISE

A. Tick (3) the correct option.

1. Digestion of food begins here:
 (a) mouth ☒ (b) stomach ☐ (c) intestine ☐
2. Digestion of food is finally completed in the:
 (a) small intestine ☒ (b) large intestine ☐ (c) stomach ☐
3. We get instant energy from:
 (a) proteins ☐ (b) carbohydrates ☐ (c) glucose ☒
4. Deficiency of this vitamin causes night blindness:
 (a) Vitamin D ☐ (b) Vitamin B ☐ (c) Vitamin A ☒
5. Food _____ is the process by which food is stored for a long time.
 (a) preservation ☒ (b) spoilage ☐ (c) deficiency ☐

B. Fill in the blanks with correct words.

boiled, PEM, digestion, mouth, stomach

1. **Digestion** is the process of breaking down up of food into simpler substances.
2. The process of digestion begins from **mouth**.
3. The oesophagus is a long tube that runs from the mouth to the **stomach**.
4. **PEM** occurs due to deficiency of proteins and carbohydrates.
5. Milk is **boiled** to kill germs.

C. Write True or False.

1. Balanced diet means taking enough quantity of only one nutrient.
False
2. Freezing makes the environment suitable for the microbial growth.
False

- | | |
|--|-------------|
| 3. Salt and sugar are food preservatives. | True |
| 4. Boiling is done to kill germs. | True |
| 5. Carbohydrates are the richest source of energy. | True |

D. Match the following.

- | | | |
|--------------------|---|-------------------------------|
| 1. Rickets | — | a. Vitamin C |
| 2. Pellagra | — | b. Vitamin D |
| 3. Scurvy | — | c. Proteins and carbohydrates |
| 4. Marasmus | — | d. Vitamin A |
| 5. Night blindness | — | e. Vitamin B |

E. Answer the following questions.

1. The process of breaking down up of food into simpler substance that can be used by our body is called digestion.
2. Functions of different organs of our body :
 - (i) **Mouth** : Digestion begins from mouth which convert complex sugar into simple sugar.
 - (ii) **Oesophagus** : Helps the food to enter from mouth to stomach.
 - (iii) **Stomach** : The food is digested into the glucose and other substances by gastric acid.
 - (iv) **Small Intestine** : Complete digestion takes place and digested food passes into the blood through walls of small intestine.
 - (v) **Large Intestine** : Undigested food is sent to large intestine where absorption of water take place waste remove out from excretory organs.
3. A diet contains a balance of carbohydrates, fats, proteins, vitamins and minerals is called a balanced diet.
4. The common signs of spoiled food are as follows :
 - Change in colour of food
 - Foul smell
 - Sour taste
 - Stickiness and sliminess of the food.
5. The process by which food is stored for a long time is called food preservation. It is the process of treating and handling food to stop or slow down food spoilage. Some methods of food preservation are :
 - (i) Canning and bottling (ii) boiling (iii) freezing (iv) drying.

12 Food for Plants and Animals

EXERCISE

A. Tick (3) the correct option.

- The process of photosynthesis lets leaves capture the energy of :
 (a) sunlight ☒ (b) plants ☐ (c) animals ☐
- Animals are called :
 (a) consumers ☒ (b) autotrophs ☐ (c) omnivores ☐
- Humans are :
 (a) omnivores ☒ (b) carnivores ☐ (c) herbivores ☐
- The plants that eat insects are called :
 (a) non-green plants ☐
 (b) parasites ☐
 (c) insectivorous plants ☒
- The relationship of eating food and being eaten as food is expressed in a :
 (a) food chain ☒ (b) food rail ☐ (c) food trail ☐

B. Fill in the blanks with correct words.

Food web, algae, dodder, mistletoe, photosynthesis, insectivorous

- Green plants make their own food by the process of photosynthesis .
- Carnivorous plants are also called **insectivorous**.
- Plants like **mistletoe** and **dodder** cannot produce their food.
- Algae** is the producer in water.
- A **food web** consists of all the food chains in a single ecosystem.

C. Write True or False.

- Sundew plant is an insectivorous plant. **True**
- Mushrooms and moulds can make their own food. **False**
- Animals cannot prepare their own food. **True**
- Omnivores kill other and eat their flesh. **False**
- Bacteria and fungi are called decomposers. **True**

D. Match the following.

- | | | |
|-------------------------|---|---|
| 1. Leaves | — | a. is called decomposer. |
| 2. Carnivorous plants | — | b. grass. |
| 3. Dodder and mistletoe | — | c. are called food factory of plants. |
| 4. Bacteria | — | d. have special structures that help them to trap insect. |
| 5. Grasshopper eats | — | e. cannot produce their food. |

E. Answer the following questions.

1. As green plants make their own food by the process of photosynthesis which is stored in leaves. That's why leaf are called food factories of plant.
2. Sundew plants which is an insectivorous plant whose leaves are covered with hair that have a sticky liquid on them. This liquids shines in the sun and attracts the insects and insect sits on the plant and caught by the hair to trapped in the liquid.
3. A food chain is like a line that shows who eats whom in nature they are linked and eat each other which shows the flow of energy is called food chain.
4. Interconnection and overlapping of many food chains is called a food web. Each food chain is one possible path that energy and nutrients may take as they move through the ecosystem.
5. It is also a insectivorous plant and have pitcher-shaped leaves with a lid. The cavity of leaves filled with nectar which attract insects then insect enter the leaf to such nectar, its lid closes and the insect gets trapped and drowns in the nectar.

13

Shelter for Everyone

EXERCISE

A. Tick (3) the correct option.

1. To protect themselves from heat, cold, rain, etc., living beings need:
(a) shelter ☒ (b) food ☐ (c) water ☐
2. A shortage of space has resulted in the construction of:
(a) kutch house ☐
(b) chawl ☐
(c) multi-storeyed buildings ☒

3. Tents are made of a thick cloth called:
 (a) canvas ☒ (b) igloo ☐ (c) stilt ☐
4. An igloo is made up of:
 (a) snow ☒ (b) wood ☐ (c) canvas ☐
5. Insects like ants and bees live:
 (a) alone ☐ (b) in water ☐ (c) in groups ☒

B. Fill in the blanks with correct words.

animal skin, sloping, drones, raised, queen

1. A stilt house is constructed on a **raised** platform.
2. The floor of an igloo is covered with **animal skin** to keep it warm.
3. **Sloping** roofs do not allow rainwater and snow to collect and make the houses cold and damp.
4. Male bees are called **drones**.
5. The **queen** ant is the mother of all the other ants in a colony.

C. Write True or False.

1. Each house in a multi-storeyed building is called a flat. **True**
2. The occupants of a house form a household. **False**
3. Nomads live in temporary houses known as igloos. **False**
4. Chawls are built in densely populated areas. **True**
5. The queen bee, worker bees and drones live together in a beehive. **True**

D. Answer the following questions.

1. In hilly and mountaneous regions, houses have sloping roofs because these roofs do not allow rainwater and snow to collect and make the house cold and damp.
2. People build stilts houses in heavy rainfall or floody areas because its construction on a raised platform, which is a few feet above the ground and keeps the house safe from snakes and insects.
3. Different people build different houses due to :
 (i) some climatic conditions like snow, rainfall.
 (ii) Due to the availability of lands, small or big.
 (iii) Living areas is different from city and rural areas.
 (iv) Depend on cost of construction pakka house costs more rather than kutcha house.
4. Bees are divided in three communities on the basis of their work.
 (i) **The Queen Bee** : The queen is the only egg producing female in the community. She is the mother of all communities bees.

(ii) **The Worker Bee** : The worker bee cannot lay eggs. They do most of the work such as secrete wax, build honeycomb, gather nectar, pollen and waters. Convert nectar into honey clean and protect hive from enemies.

(iii) **The Drone Bee** : It is a stingless and defenseless bee. Its only function is to mate with the queen.

5. Worker ants do different works which is divided in three type ants :

(i) **Soldier Ant** : A soldier ant guards the opening of the nest to prevent enemies from entering.

(ii) **Nursery Worker Ant** : A nursery worker ant cares for new born ants or larvae to hatch from the eggs.

(iii) **Cleaner ant** : A cleaner ant is responsible for cleaning the entire ant nest.

14

Natural Disasters



A. Tick (3) the correct option.

- What is the sudden release of energy in the Earth's crust called?
(a) Tsunami ☐ (b) Earthquake ☒ (c) Cyclone ☐
- What is an overflow of the huge amount of water onto the normally dry land called?
(a) Flood ☒ (b) Tsunami ☐ (c) Cyclone ☐
- In which regions cyclones are very common in India?
(a) Plains ☐ (b) Hilly regions ☐ (c) Coastal regions ☒
- Fast moving, violent and destructive windstorm is called:
(a) Cyclone ☒ (b) Tsunami ☐ (c) Drought ☐
- _____ is a Japanese word meaning 'harbour wave'.
(a) Tsunami ☒ (b) Cyclone ☐ (c) Drought ☐

B. Fill in the blanks with correct words.

NGOs, drought, flood, earthquake, economy

- An **earthquake** is caused by a sudden slip on a fault.
- Heavy rainfalls are one of the major causes of **flood**.
- Drought** is caused due to poor rainfall.

4. Calamities affect the life, **economy** and development of a country.
5. **NGO** provide aid and support of the affected people.

C. Write True or False.

1. During an earthquake, we should stand under a tree. **False**
2. Tsunami is a Japanese word meaning cyclone. **False**
3. Floods occur due to less rainfall. **False**
4. Tsunami occurs due to floods. **False**
5. The Indian armed forces are trained to help in rescue operations. **True**

D. Answer the following questions.

1. Natural calamities are natural disasters or emergencies that are caused by environmental factors such as earthquake, floods, wildfires, tornadoes etc.
2. A sudden, violent shaking or trembling of Earth's surface is called an earthquake. Which is caused by a sudden slip on a fault and tectonic plates always moving slowly which get stuck at their edges due to friction causes earthquake.
3. Flood affects millions of people world wide and cause a massive damage to life and property on a large scale and destroy many houses, agriculture fields etc.
4. The shortage or scarcity of food and water leads to many people die due to hunger and scarcity of water. This condition is called famine.
5. Various national and international agencies, (NGO's) and the United Nations Disaster Management Team (UNDMT) provides the aid and support to the affected or victim people by providing them shelter, food, water, clothes etc.

15

Water and Its Sources



A. Tick (3) the correct option.

1. Baoli is also called:
 (a) step well ☒ (b) deep well ☐ (c) upper well ☐
2. Water wheel is used in:
 (a) dhekli system ☐ (b) rahat system ☒ (c) irrigation system ☐

3. Watering of fields by artificial means is called:
 (a) irrigation ☒ (b) rahat ☐ (c) none of these ☐
4. _____ are free water stands in public area:
 (a) Baolis ☐ (b) Tubewells ☐ (c) Piao ☒
5. It is not a method of irrigation:
 (a) furrow ☐ (b) sprinkle ☐ (c) baoli ☒

B. Fill in the blanks with correct words.

sprinkle, piao, rain, windmill, baoli

1. **Rain** is the main source of water on Earth.
2. A **windmill** uses wind energy to draw water from well.
3. **Baoli** are wells which has steps on all sides.
4. The word **piao** means 'to offer liquid to drink'.
5. In **sprinkle** irrigation, water is sprayed on crops in the form of artificial rain.

C. Write True or False.

1. Canals are the main source of water on Earth. **False**
2. Most of the baolis today have dried up. **True**
3. Piao means to drink lot of water. **False**
4. A windmill use solar energy to draw water from a well. **False**
5. Sprinkler is used to draw out underground water. **False**

D. Answer the following questions.

1. Some part of the rainwater seeps into the layer of solid bedrock and collects as pure water under the earth's surface is called underground water.
2. A baoli is a ancient water tank that has steps on all its sides so that people reach the water is called a step-well or baoli whereas– Piao means to 'offer water to drink' a underground well, in cities earthen pots are setup to provide fresh water to travellers.
3. A water wheel have buckets fixed to a wheel. As the wheel rotates, the buckets lift water from wells and then diverted to the fields. It is also known as persian wheel, rahat and charas was used in ancient times.
4. A water pump is used to draw out underground water with the help of electricity which is used for irrigation.
5. There are different methods of irrigation :
 (i) **Furrow irrigation** : This irrigation is done in fields which are made into furrow and ridges.

(ii) **Flood irrigation** : Water is allowed from canal to flow and it irrigate fields according to the field slope.

(iii) **Sprinkle irrigation** : In this water is sprayed on standing crops by sprinklers or made holes in the pipe.

16 The Aquatic World

EXERCISE

A. Tick (3) the correct option.

1. Which of the following plants is a fixed plant?
(a) Hydrilla ☐ (b) Water lily ☒ (c) Cat-tail ☐
2. Which of the following plants is a submerged plant?
(a) Tapegrass ☒ (b) Lotus ☐ (c) Water lily ☐
3. Which of the following plants is an emergent plant?
(a) Vallisneria ☐ (b) Tapegrass ☐ (c) Cat-tail ☒
4. Which of the following plants is a free-floating plant?
(a) Duckweed ☒ (b) Tapegrass ☐ (c) Cat-tail ☐
5. Malaria is spread by:
(a) female anopheles mosquito ☒
(b) luna moth ☐
(c) black-widow spider ☐

B. Fill in the blanks with correct words.

webbed, mosquito, gills, aquatic, fixed

1. Plants that live in, or on the surface of water are called **aquatic** plants.
2. **Fixed** plants have long, hollow stem and broad, floating leaves.
3. Fishes have well developed **gills** that help them to breathe in water.
4. Malaria is a disease caused by **mosquito**.
5. Water birds have **webbed** feet which help them to stand, walk and swim in water.

C. Write True or False.

1. Fixed plants have their roots at the bottom of the water body. **True**
2. Aquatic animals live on the land. **False**
3. Dolphin, seal, whale, sea lion live in water. They are fish. **False**

4. Malaria is a disease caused by mosquito. **True**
 5. A blood test helps to diagnose the presence of malaria. **True**

D. Match the following.

- | | | |
|---------------------|---|------------------------------------|
| 1. Fixed plants | — | a. have webbed feet |
| 2. Submerged plants | — | b. grow along banks of rivers |
| 3. Emergent plants | — | c. narrow leaves and spongy stem |
| 4. Amphibians | — | d. hollow stem and floating leaves |
| 5. Water birds | — | e. live on land and in water |

E. Answer the following questions.

1. There are three types of floating plants :
- (i) **Free-Floating plants** : These plants freely float in water and are not attached to any surface with spongy and air-filled parts.
 - (ii) **Fixed plants** : These plants have their roots at the bottom of the water body, like water lily or lotus.
 - (iii) **Submerged plants** : Plants that are grow under the water are called submerged plants. Roots of these plants fix them to the bottom of the curd.
2. Those water animals who have a hard shell on their body and have special limbs help them swim. They usually breathe through gills are known as crustaceans such as lobsters, shrimps, crayfish and crabs.

3. Fixed Plants	Free-floating Plants
(i) There roots are fixed to the bottom of the water.	(i) There roots are not fixed to the bottom of the water.
(ii) They have long, hollow stem and broad floating leaves	(ii) They are small in size and are spongy or filled with air.

4. Animals who can live both on land and water are known as amphibians. Such as : frog, toads and salamanders.
5. Symptoms of malaria :
- (i) Higher fever along with shivering
 - (ii) Severe headache
 - (iii) Vomiting continuously
- It can be prevented by following methods :
- (i) Use mosquito net and emptied and cleaned timely.
 - (ii) Do not let water collect in and around your house.
 - (iii) Wear full sleeves cloth and shirts at night.

17

Fuel and Adventure



EXERCISE

A. Tick (3) the correct options.

1. These are non-renewable resources:
 (a) fossil fuels ☒ (b) alternate fuels ☐ (c) none of these ☐
2. The process by which a fuel is converted into energy is called:
 (a) combustion ☒ (b) decomposition ☐ (c) sedimentation ☐
3. Coal petroleum and natural gas are:
 (a) fossil fuels ☒ (b) alternate fuels ☐ (c) both of these ☐
4. It is an example of alternate fuel:
 (a) petrol ☐ (b) diesel ☐ (c) bio-diesel ☒
5. Which of the following is an adventure sport?
 (a) Bungee jumping ☒
 (b) Rowing ☐
 (c) Mountaineering ☐

B. Fill in the blanks with correct words.

Crude, vehicles, combustion, oil wells, mountaineering

1. Fuel is a substance that provides energy on **combustion**.
2. Natural gas is found along with petroleum in **oil wells**.
3. Biodiesel is being used as fuel in **vehicles**.
4. Petroleum is also called **crude** oil.
5. The sport or activity of climbing mountains is called **mountaineering**.

C. Write True or False.

1. CNG is found along with petroleum. **True**
2. Petrol is a fossil fuel. **True**
3. Biogas is an exhaustible resource. **False**
4. Adventure tourism involves travelling to remote and unknown areas. **True**
5. Bachendri Pal was the first Indian woman to climb Mount Everest in 1984. **True**

D. Answer the following questions.

1. Any substance that upon combustion produces a usable amount of energy is known as fuel. *e.g.*, coal, petroleum.
2. Mostly fossil fuels are non-renewable which means they can't be renewed, they are in limited supply. That's why fossil fuels are called exhaustible resource.
3. It is made when sea plants and animals died and their bodies were buried under layers of mud and silt on the reached under high temperature and pressure and then remained plants and animals changed into crude oil or petroleum and natural gas.
4. Natural gas is called (C.N.G.) which is used as fuel in many vehicles in cities. This gas is called clean fuel because it does not cause pollution.
5. The adventures game or physical activity which involves risk, danger, excitement and uncertain experiences done by any person are called adventure sports. Such as Bungee Jumping, Scuba diving, Paragliding, River Rafting etc.

18

Indian Heritage

EXERCISE

A. Tick (3) the correct option.

1. Which of the following is not a heritage building?
(a) Taj Mahal ☐ (b) Qutub Minar ☐ (c) Hawa Mahal ☒
2. The Red Fort is surrounded by a wall of:
(a) white marble ☐ (b) red sandstone ☒ (c) red marble ☐
3. The India Gate was built in:
(a) 1920 ☐ (b) 1925 ☐ (c) 1931 ☒
4. The Meenakshi Temple is a famous temple at:
(a) Agra ☐ (b) Madurai ☒ (c) Delhi ☐
5. The Konark Sun Temple is dedicated to the:
(a) Moon god ☐ (b) Sun god ☒ (c) Indra ☐

B. Fill in the blanks with correct words.

yamuna, Iltutmish, Taj Mahal, madurai, honour

1. **Taj Mahal** is considered one of the seven wonders of the world.

2. Qutub Minar was completed by **Iltutmish**.
3. Red Fort was built on the bank of **Yamuna** river.
4. India Gate was built to give **honour** to the Indian soldiers.
5. The Meenakshi Temple is a famous temple at **madurai** in Tamil Nadu.

C. Match the Following.

- | | | |
|---------------------|---|---|
| 1. Taj Mahal | — | a. surrounded by wall of red sandstone. |
| 2. Qutub Minar | — | b. has huge gateways called gopuram. |
| 3. Red Fort is | — | c. was built in 1931 in New Delhi. |
| 4. Meenakshi Temple | — | d. built by the Shah Jahan. |
| 5. India Gate | — | e. has five storeys. |

D. Answer the following questions.

1. Heritage refers to the cultural treasures, monuments and historic assets that a society or community inherits from their ancestors and is passed down to future generation. Such as Meenakshi Temple, Taj Mahal, Qutub Minar etc.
2. A building which is considered by the government to have historic, cultural or architectural value is called heritage building.
3. Old monuments are some of the most important sources of history. They tell us about the grand visions of the builders and also about the artists, masons and craftsmen who had carved them.
4. Qutub-ud-din Aibak started the construction of the Qutub Minar in 1192 and it was completed by his son-in-law Iltutmish. The monument has five storeys, each of which is carved with beautiful designs. It is the tallest minar in India.
5. We can protect monuments by different ways :
 - (i) Cooperate with the authorities and caretakers of the buildings.
 - (ii) Observe general rules of cleanliness in public places.
 - (iii) Inform the staff on duty if somebody tries to harm them.