EVS

TEACHERS' Manual

1 to 5

Environmental Studies 1

Chapter [1]

Introducing Myself

Do yourself

Chapter [2]

Our Body Parts

A. 1. two 2. one 3. two 4. two
5. two 6. ten

B. (a) Eyes (b) Ear (c) Palm/Hand (d) Legs

C. 1. hand 2. legs 3. one 4. two

D. 1. Skin 2. Fingers 3. Foot 4. Eyes

E. Do yourself

Chapter [3]

Our Sense Organs

A. 1. (b) eyes 2. (b) nose
3. (c) two 4. (c) month

B. 1st and 3rd

C. **Match the following :**
1. blind (d) eyes don't work
2. feel (e) skin
3. smell (b) nose
4. deaf (a) ears don't work
5. hear (c) ears

D. 1. taste 2. see 3. hear 4. smell
5. touch/feel

E. Do yourself

F. Do yourself

Chapter [4]

My Family

A. Do yourself

B. Do yourself

C. 1. nuclear 2. parents 3. siblings 4. cousins

D. Nuclear Family (small family)
Large Family
Joint Family

E. Do yourself

F. Do yourself

Chapter [5]

My School

A. 1. (c) both a and b 2. (d) all of these
3. (d) all of these

B. **Math the following :**
1. Clean the classroom (b) sweeper
2. grows plants (c) gardener
3. rings the bell (d) peon
4. head of the school (a) Principal

C. 1. ✗ 2. ✗ 3. ✓ 4. ✓ 5. ✓ 6. ✗

D. Do yourself

E. (a) Republic Day (b) Independence Day
(c) Gandhi Jayanti (d) Environment Day
(e) Children's Day

F. Do yourself

Chapter [6]

Our House

A. 1. (c) Drawing room 2. (b) windows
3. (c) bathroom 4. (a) wind

B. 1. Sunlight 2. tidy
3. kitchen 4. Bathroom
5. Bedroom

C. 1. Temporary or Kutcha house
2. Permanent or Pucca House

D. Do yourself

E. Do yourself

F. Do yourself

Chapter [7]

Clothes We Wear

A. 1. (a) sheep 2. (c) cotton clothes
3. (b) rainy season 4. (c) both of these

B. [W] [R] [R] [R]
[W] [S] [W] [S]

C. 1. cotton 2. woollen 3. cotton 4. warm

D. 1. Clothes protect us from heat, cold, wind and rain.
2. In summers we wear light coloured cotton clothes.
3. In winter we wear woollen clothes.
4. In rainy season we wear raincoats and gumboots.

E. Men wear shirts & pants etc.
- Women wear sarees, blouse etc.
- Children wear half-pants, t-shirts etc.

F. Do yourself

Chapter [8]

Food and Water

A. 1. (b) breakfast 2. (a) food
3. (c) water 4. (b) healthy
B. 1. True 2. False 3. False 4. True
C. Do yourself
D. 1. We get our food from plants and animals.
2. We need food to live and grow. Food provides us energy to do work.
3. Three meals of the day are :
Breakfast
Lunch
Dinner.
E. Do yourself
F. Do yourself

Chapter [9]

People Who Help Us

A. 1. False 2. False 3. True 4. True
B. **Match the following :**

1. Cobbler	Shoes
2. Plumber	Tape
3. Milkman	Milk
4. Farmer	Field
5. Postman	Letters
6. Tailor	Needle & thread

C. 1. Shopkeeper 2. Tailor
3. Postman 4. Sweeper
D. 1. Farmers grow food for us.
2. A sweeper collects the garbage from our home.
3. A washerman cleans and irons our clothes.
4. Yes, we should respect all helpers for the work they do for us.
E. Do yourself
F. Do yourself

Chapter [10]

Our Neighbourhood

A. 1. True 2. False 3. True 4. True
5. True
B. **Match the following :**

1. People living around our house	(a) neighbours
2. Doctor and nurse	(d) hospital
3. Place of worship	(b) temple
4. Policemen	(e) Police Station
5. Letters and Parcel	(c) Post office

C. 1. Parks 2. Banks 3. Study
4. neighbourhood
D. 1. Park, Market, Temple
2. We go to hospital when we are sick.
3. We buy different things from market.
E. Do yourself
F. Do yourself

Chapter [11]

Good Habits & Manners

A. G B G B
B. 1. False 2. True 3. False 4. True
C. 1. politely 2. twice 3. healthy 4. off
D. 1. Good habits make us a good human being.
2. (i) We must wash our hands before eating.
(ii) We should go to bed on time.
3. (i) Be polite (ii) Respect our elders
4. We should talk politely
E. Do yourself
F. Do yourself

Chapter [12]

Safety

A. 1. False 2. True 3. True 4. False
B. 1. Stop 2. Wait 3. Go 4. Zebra
C. R R G R
D. 1. Safety means being safe from danger/risk or injury.
2. (i) Do not push mates in the playground
(ii) Do not run on the stairs.
E. Do yourself
F. Do yourself

Chapter [13]

Festivals and Celebrations

A. 1. False 2. True 3. True 4. False
B. 1. Muslims 2. Diwali 3 . Gurpurab 4. Christmas
C. 1. Diwali, Christmas, Eid
2. Diwali, Holi, Rakshabandhan
3. 15th August every year
D. Do yourself
E. We celebrate festivals to have fun and prey.
F. Do yourself

Chapter [14]

Means of Transport

A. 1. Air transport 2. Land
3. Boat 4. Aeroplane

B. 1. (b) auto rikshaw 2. (a) bus
3. (d) train 4. (c) aeroplane
5. (e) boat

C. 1. [ ] [✓] [ ]
2. [✓] [ ] [ ]
3. [ ] [ ] [✓]

D. 1. Car, scooter, bicycle
2. Bus, train, aeroplane, car

E. Do yourself

F. Do yourself

Chapter [15]

Means of Communication

A. 1. (a) newspaper 2. (c) telephone
3. (b) television 4. (b) radio

B. 1. Telephone 2. Computer
3. Internet 4. Television

C.

Newspaper	printed on paper
Letter	Received from a post office
Radio	Listen to it
Computer	Send and receive e-mail
Telephone	make calls
Television	watch and hear

D. 1. Letters, telephone, e-mail
2. Newspaper, Television
3. Internet is the fastest means of communciation.

E. Do yourself

F. Do yourself

Chapter [16]

Plants

A. 1. Shrubs 2. Trees 3. Stem 4. trunks

B. 1. Do yourself 2. Do yourself
3. Do yourself

C. 1. True 2. False 3. True 4. True

D. 1. A plant needs water, air, soil and sunlight to grow.
2. Yes, plants are living things.
3. Plants give us food Plants give us mechicines.
4. Margosa (Neem) Peepal tree

E. Do yourself

F. Do yourself

Chapter [17]

Animals

A. 1. (c) tiger 2. (b) horse
3. (c) dog 4. (b) whale

B. **Match the following :**

1. Bird	(c) sparrow
2. wild animal	(e) tiger
3. Domestic animal	(d) cow
4. Pet animal	(b) dog
5. Land and water both	(a) frog

C. 1. False 2. True 3. True 4. False
5. True

D. 1. Animals that take care of their food and shelter themselves are known as wild animals *Example*-lion, whale, tiger.
2. cow, buffalo, sheep, goat
3. Animals which we keep in our home are called pet animals, such as— Dog, cat etc.
4. Whale, Fish, Turtle

E. Do yourself

F. Do yourself

Chapter [18]

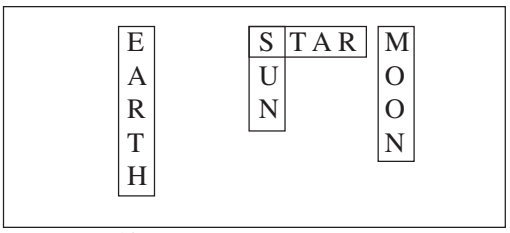
The Earth and The Sky

A. 1. (a) moon 2. (b) stars
3. (a) far 4. (a) day time

B. 1. East 2. Moon 3. Water 4. Earth

C. **Answer the following**
1. The sun sets in the west.
2. The moon and stars can be seen in the night sky.
3. The earth's surface is made up of land and water.

D.



E. Do yourself

F. Do yourself

Environmental Studies 2

Chapter [1]

My Body

A. **(a)** Heart — Internal organ
(b) Nose — Sense organ
(c) Legs — External organ
(d) Eyes — Sense organ
(e) Hands — External organ
(f) Intestine — Internal organ

B. 1. Brain 2. stomach
3. breathe 4. external
5. internal

C. 1. True 2. False 3. True 4. True

D. 1. Organs that can be seen from outside are called external organs. *Example*— arms, Legs, eyes.
2. Organs present inside our body are called internal organs. *Example*— brain, heart etc.
3. Organs which help us to sense the things are called sense organs. *Example* — eyes, ears.

E. 1. Ear 2. Lungs 3. Hands 4. Hands
5. Hand

F. Do yourself

G. Do yourself

Chapter [2]

Our Family

A. 1. (b) members 2. (b) single parent
3. (c) brother 4. (c) cousins

B. **Match the following :**
1. Nuclear (d) small family
2. Surname (a) common family name
3. Maternal (b) mother's relative
4. Paternal (c) father's relative

C. 1. Cousins 2. Grandmother (Maternal Grandmother)
3. Grand father 4. Aunt

D. 1. Two types of families are nuclear family and joint family.
2. A joint family has parents, their children, uncle, aunts, cousins and grand parents.
3. A nuclear family has parents and their one or a few children.
4. Children of our uncle and aunt are known as our cousins.

E. Do yourself

F. Do yourself

Chapter [3]

Our Neighbourhood

A. 1. (c) bank 2. (b) ATM
3. (c) stationery shop

B. 1. a hospital 2. post office
3. a bank 4. chemist's shop
5. green grocer's store

C. 1. False 2. True 3. True 4. False

D. 1. Bank 2. Stationery shop
3. Chemist's shop 4. Barber's shop

E. 1. chemist's shop, Barber's shop
2. When ever there is a fire, the fire fighters put off the fire and save life and property.
3. (a) Milk and milk products (Paneer, curd, butter etc.)
(b) Wheat flour, sugar, spices, tea etc.
(c) Pen, pencil, notebooks, eraser etc.

F. Do yourself

G. Do yourself

Chapter [4]

Shelter

A. 1. (b) cement 2. (a) mud
3. (b) temporary houses
4. (a) Eskimos

B. 1. (c) 2. (e) 3. (h)

C. 1. False 2. True 3. True 4. False
5. True

D. 1. A shelter is a place that provides protection from heat, cold, rain and storms.
2. Three types of houses are kuchcha house, Pucca house and temporary house.
3. Example of temporary houses are tent, caravan and houseboat.
4. Good House
(i) A good house has good number of windows to let in fresh air and sunlight.
(ii) A good house is neat, clean and tidy.

E. Do yourself

F. Dog-kennel, Pig-sty, sheeps-farm, cow-shed, horse-stable, lion-cave.

Chapter [5]

Clothes

A. 1. nylon (man made) 2. cotton (natural)
3. cotton (plant fibre)

B. 1. Clothes 2. Cotton
3. Woollen 4. Raincoat
5. Uniform

C. 1. False 2. True
3. True 4. False
5. True

D. 1. Nylon, rayon
2. Three fibres obtained from plants and animals are
cotton silk wool
3. Woollen clothes
(we wear woollen clothes in winter)
4. During Summer we wear light coloured cotton clothes.
5. Clothes protect us from heat, cold, rain and wind.

E. Do yourself

F. Do yourself

Chapter [6]

Work and Play

A. 1. False 2. False 3. True 4. False

B. 1. Work 2. Exercise 3. Indoor 4. Outdoor

C. **Match the columns :**

1. A chef	(b) cooks food
2. A teacher	(d) teaches
3. A postman	(e) delivers letters
4. A pilot	(a) flies aeroplane
5. A green grocer	(c) sells fruits and vegetables

D. 1. Games that are played inside the house are called indoor games.
Example— chess, Ludo, carrom
2. Games that are played outside the house are called outdoor games.
Example—Cricket, football, hockey.
3. Do yourself (favourite game)
4. We must work, play and exercise to stay fit. In addition to this we should eat healthy food. We should keep our surroundings clean.

E. Do yourself

F. Do yourself

Chapter [7]

Food

A. 1. Energy giving food 2. Body building food
3. Protective food

B. 1. balanced 2. Milk
3. water 4. vegetarian 5. meals

C. Do yourself

D. 1. A diet that contains all the essential nutrients in right amount in called balanced diet.
2. Food gives us energy to do work. Food helps us to grow and stay healthy.
3. Good food habits
(i) eat fresh food
(ii) Have meals on time

E. Do yourself

F.

B	P	B	P
P	P	E	B

Chapter [8]

Water

A. Do yourself

B. 1. ..... germs present in water.
2. ..... impurities present in water.
3. ..... when it rains.

C. 1. True 2. False 3. True 4. True

D. 1. Water is very important because
We use it for drinking
We use it for cooking.
We use it for bathing and washing clothes
We use it for growing plants, cleaning utensils etc.
2. Source of water
River, lake, wells and rain
3. Ways to save water
(i) Close the taps after use.
(ii) Collect water when it rains.

E. 1. Cleaning 2. Washing Clothes
3. Bathing 4. Drinking
5. Watering Plants

F. Do yourself

Chapter [9]

Good Habits

A. 1. (c) use dustbin
2. (d) use handkerchief
3. (a) use soap and clean towel
4. (b) use nail cutter

B. 1. nails 2. exercise 3. comb
4. habit 5. hands

C. 1. Always sleep and get up on time.
2. Eat fresh and clean fruits and vegetables daily.
3. Work, play, exercise and take rest daily.

D. Is not given

E. Do yourself

F. Do yourself

Chapter [10]

Safety First

A. 1. electric socket 2. corridor
3. swing 4. footpath
5. helmet

B. 1. False 2. True 3. True 4. True
5. False

C. 1. Safety rules are such rules and methods which help us to remain safe.
2. A first aid box should have cotton, thermometer, scissors, bandage, antiseptic lotion and paracetamol tablets to reduce fever/pain.
3. If safety rules are not followed, one may get hurt or injured.

D. Do yourself

E. Do yourself

F. Do yourself

Chapter [11]

Celebrations

A. 1. 26th January every year
2. 15th August every year
3. 2nd October every year
4. 25th December every year
5. 13th April every year

B. 1. True 2. False 3. True 4. True
5. True

C. 1. (i) Republic Day (ii) Independence Day
(iii) Gandhi Jayanti
2. (i) **Diwali :** Diwali is a festival of light. It is mainly celebrated by Hindus. People deco rate their houses with lights, candles and diyas. They worship goddess Lakshmi and Lord Ganesha. Children burst fire crakers.
(ii) **Eid Ul Fitr :** Eid is celebrated by the muslims. It is celebrated at the end of Ramdan. People pray is mosques and wish Eid Mubarak to their friends and relatives. They wear new clothes and eat sevaiyan.
3. Eid is celebrated at the end of Ramdan, the holy month of fasting.
4. Gandhi Jayanti is observed on 2nd October every year.

D. Cross word

HOLI	DIWALI
CHRISTMAS	DUSSERA
	EID

E. Do yourself

F. Do yourself

Chapter [12]

Time and Directions

A. 1. 24 2. West 3. East 4. North

B. 1. False
2. False * (The time period between afternoon (4-5 pm) and night in called evening).
3. True
4. True

C. Do yourself

D. 1. A day begins when the sun rises.
2. Time between sunrise and sunset in called day time.
3. The time period between the sunset and next sunrise in called night time.
4. Four directions are
North
South
East
West

E. Do yourself

F. Do yourself

Chapter [13]

Living and Non-Living

A. 1. Living 2. breathe 3. energy 4. life

B. 1. False 2. True 3. True 4. False

C. 1. Livings things have certain unique features. They breath, need food and grow. *Example* — cows, monkeys, trees
2. Non-living things do not show any sign of life. They neither breathe nor need food to grow. *Example*— chair, table, stone
3. Features of living things
(i) Living things breathe
(ii) Living things need food (energy)

D. (i) 1. Tree 2. Honey bee
3. Fish 4. Lizard
5. Bird
(ii) 1. Nut and bolt 2. Pencil
3. Table 4. Water
5. Building

E. Do yourself

F. Do yourself

Chapter [14]

Plants and Their Uses

A. 1. Leaves 2. trunk 3. Plants 4. Shrubs

B.

1. Trees	Mangosa (Neem)	Peepal
2. Shrubs	Tea	Rose
3. Herbs	Spinach	Mustard
4. Climbers	Money plant	Pea
5. Creepers	watermelon	pumpkin

C. (i) Food (ii) Medicines (iii) wood
(iv) Fibre (cotton) (v) Oil
(vi) Fresh air

D. 1. Big, tall and strong plants are called trees. They have thick stem called trunk.
Example— Banyan, mango
2. Parts of a plant are—
(i) Roots
(ii) Stem and branches
(iii) Leaves
(iv) Flowers and fruits
3. Shorter plants with green and soft stems are known as herbs.
Example— mint, spinach
4. (i) Plants give us clean and fresh air
(ii) We get our food from plants.

E. Do yourself

F. Do yourself

Chapter [15]

Animals

A. 1. Lion 2. Fox 3. Giraffe 4. Dog
5. Donkey

B. 1. True 2. True 3. False 4. True

C. **Match the following :**
1. Hen (c) eggs
2. Cow (d) milk
3. Bee (e) honey
4. Sheep (b) wool
5. Horse (a) pulls carts

D. 1. Domestic animals are tamed animals. We take care of their food and shelter. They are useful to us.
2. Animals that can not be domesticated are called wild animals, they arrange their food and shelter themselves.
Example— Deer, lion
3. We get following things from animals :
(i) Milk (ii) wool
(iii) Eggs and meat/honey

E. Do yourself

F. Do yourself

Chapter [16]

Our Earth

A. 1. (a) rivers 2. (c) valley 3. (b) mountains 4. (a) peak

B. 1. Oceans 2. peak 3. plains 4. Ponds

C. 1. True 2. True 3. False 4. True

D. 1. Oceans
Seas
Salt water lakes
2. Very high hills are called mountains.
3. Main kinds of land forms on the earth are—
(i) Plains (ii) Hills
(iii) Mountains (iv) Valley
(v) Plateau

E. Do yourself

F. Do yourself

Chapter [17]

Weather and Seasons

A. 1. (a) Spring 2. (b) Summer
3. (b) Loo 4. (a) monsoon

B. 1. True 2. True 3. True 4. False
5. True

C. 1. SPRING 2. SEASON
3. WEATHER 4. MONSOON
5. SUMMER

D. 1. We wear cotton clothes during summer season.
2. The weather is pleasant in the spring season.
New leaves grow on trees.
Many types of flowers bloom.
3. The Summer reason is very hot.
4. The winter season is very cold.

E. Do yourself

F. Do yourself

Environmental Studies 3

Chapter [1]

Parts of Our Body

A. Match the following :

1. Eyes	(e) help us to see
2. Lungs	(f) help us to breathe
3. Heart	(c) help to pump our blood
4. Stomach	(a) help us digest food
5. Hands	(b) help us to hold things
6. Legs	(d) help us to walk

B. 1. 206 2. muscles 3. Neck
4. Brain 5. skeleton

C. [foodpipe] [lungs] [Brain] [Heart] [Stomach]

D. 1. Three external organs are hands, legs and eyes.
2. The brain controls activities of all other parts of the body. It decides and instrusts our body to react accordingly.
3. The organ that pumps blood to different parts of the body is heart.
4. Nose and lungs help us to breathe.
5. The stomach helps us to digest the food. (Extraction of nutrients from food is done by intistive)
6. The bones of our body join together to form a bony framework called the skeleton.

E. (a) train – brain (b) rose – nose
(c) phone – bone (d) deck – neck
(e) band – hand (f) nest – chest

F. Do yourself

Chapter [2]

Relations and Relatives

A. Do yourself

B. 1. False 2. True 3. True
4. False 5. True

C. 1. orphans 2. uncle 3. aunt
4. grandparents 5. Siblings

D. Choose the correct option
1. (a) help 2. (a) obedient
3. (b) one 4. (b) parents

E. 1. Three types of families are—
(i) joint family (ii) Nuclear family
(iii) Single parent family
2. People who adopt orphan children and take care of them as their own are called foster parents.
3. A joint family is a family in which parents, their children, grand parents, uncles, aunts and cousins all live together.
4. A nuclear family consists of only parents and their children. These families are called small families.
5. A single parent family has only one parent, either the mother or the father and his/her children.

F. Do yourself

G. Do yourself

Chapter [3]

Food

A. Nutrients of our food are
1. Carbohydrates 2. Proteins 3. Fats
4. Vitamins 5. Minerals

B. 1. True 2. True 3. False
4. True

C. 1. energy 2. minerals
3. vegetarians 4. non-vegetarians
5. body building food

D. 1. A diet that contains all the essential nutrients in adequate amount is called balanced diet.
2. Some nutrients provide energy, some help us to grow and some protect us from diseases. Therefore, our body needs different kinds of nutrients to live, grow and stay healthy.
3. Proteins help our body to grow. Proteins are called body building food.
Food rich in proteins — milk, paneer, pulses, eggs
4. Vitamins help us to fight diseases and keep our body function properly.
Food rich in vitamin— Green baby vegetable, fruits whole grains.

E. 1. Energy giving food
2. Body building food
3. protective food.

F. Do yourself

G. 1. N V N
N V V

2. Do yourself

Chapter [4]

Clothes We Wear

A. Match the following :

1. Leather	dead animals
2. Jute	plant
3. Linen	flax plants
4. wool	goat
5. silk	silkworm

B. 1. True 2. False
3. True 4. True

C. 1. Yarns * (Fibres are converted into yarn by spinning. Yarns are used for wearing, not fibres)
2. Linen
3. Wearing and knitting
4. Silkworms

D. 1. The clothe we wear depend upon the climate, season/weather and tradition of the place where we live in.People also wear different types of clothes according to the work they do.
2. Long threads called Yarns made from fibres (natural or man made) are woven to make fabric or cloth.
3. Plants and animals and natural source of fibres.
Example of plant fibres — cotton, linen, jute
Example of animal fibre — wool, silk
4. Artificial fibre in made by man in factories
Example — Rayon, nylon, polyester
5. Two methods of making clothes are wearing and knitting.

E. 1. DHOTI 2. PANTS 3. SAREE
4. KURTA 5. SHIRT 6. SKIRT

F. Do yourself

Chapter [5]

Houses We Live

A. We all wish to live in a neat and clean house. A house is a lovely place. Dirty house can make us sick.

B. 1. (c) straw 2. (a) Houseboats
3. (b) caravan 4. (a) dustbins

C. 1. Stilt 2. Tents 3. Igloos
4. Drain 5. Gems

D. 1. The type of house built depends on following factors :
(a) The climate of the place
(b) Material available
(c) Money that person can spend
2. Houseboats are wooden houses made on boats. These are floating houses and can be moved around in water.
3. Three features of a good house
(a) It should allow fresh air and sunlight to come in.
(b) It should be neat, clean and door/windows should have wire netting.
(c) Floor of bathroom should allow used water to flow out easily.
4. Stilt houses are constructed in areas of heavy rain. These are built on poles or stilts. The roof of these houses are slanting so that rain water slides down easily. These houses are protected from flood water.
5. Windows and doors are needed for proper ventilation. They allow fresh air and sunlight to come in. Sunlight is good for our health and it kills germs.

E. Do yourself

F. 1. Shed, 2. Kachcha 3. Beehive
4. Good 5. Sheep 6. Burrow
7. Horse 8. Coop

Chapter [6]

Work Around Us

A. 1. Occupation/Job 2. Carpenter
3. Domestic 4. A sweeper

B. 1. Cook 2. Driver 3. Barber 4. Tailor
5. Electrician

C. 1. True 2. True 3. False 4. True

D. 1. The work that a person does to earn money in called his/her occupation.
2. Three occupations are :
teaching, farming, defence service
3. We can share work at home by :
(a) Helping mother/father in household work

(b) By cleaning the mess at home
(c) By watering the plants
(d) By taking care of younger ones

4. Child labour is harmful for the physical and mental growth of a child. Therefore, Indian government has banned child labour.

E. Do yourself
F. Do yourself

Chapter [7]

Playing Games

A. 1. game 2. indoor
3. risk 4. team games
B. 1. True 2. False 3. True 4. True
C. 1. Playing games relaxe our mind. It is good exercise for our body. Games keep us healthy and make us active.
2. Two main types of games are — indoor games and outdoor games.
3. The games that are played inside the house are called indoor games.
Example— Chess, Ludo, Carrom.
4. The games which are played outside the house are called outdoor games. They are played in open space. *Example* — hockey, cricket, football.
D. Match the following :
1. Sachin tendulkar (c) cricket
2. Saina Nehwal (a) badminton
3. Mary Kom (d) boxing
4. Sushil Kumar (b) wrestling
E. Do yourself
F. Do yourself

Chapter [8]

Keeping Healthy

A. 1. True 2. False 3. True 4. True
B. 1. Germs 2. dustbin 3. Cleanliness
4. hands 5. Exercise
C. 1. Cleanliness means being free from dirt and gems. cleanliness keeps us healthy.
2. Ways to maintain personal hygiene—
(a) We should take a bath everyday.
(b) We should brush our teeth twice daily.
(c) We should wash our hands before eating food.
3. Ways to keep our surroundings clean—
(a) We should throw the garbage into a covered dustbin.
(b) We should not allow stagnant water to stay in our neighbourhood.
(c) We should plant more and more trees in our neighbourhood.
4. Exercise is good for our health. It makes our body strong, flexible and active.
D. 3. Clean India mission
E. Do yourself
F. Do yourself

Chapter [9]

Means of Transportation

A. 1. (a) land 2. (c) Train
3. (b) camels 4. (a) Submarine
5. (a) Bus
B. 1. helipad 2. land
3. Air 4. airport
5. transport
C. Match the following :
1. Metro train (e) rail transport
2. Ferry (c) water transport
3. Camel (d) Land transport
4. Helicopter (a) air transport
5. Car (b) private transport
D. 1. Different ways of travelling to places are called modes of transport.
2. Three main modes of transport are—
(i) Land transport (ii) Water transport
(iii) Air transport
3. Air transport is the fastest means of transport.
4. Trains are the cheapest mode of transport.
5. Air transport — Aeroplane, helicopter, private planes
Land transport — Train, bus, car
Water Transport — Ship, boat, motorboat
E. Do yourself
F. Do yourself

Chapter [10]

Means of Communication

A. 1. communication 2. e-mail/fax
3. Deaf, dumb 4. Postal communciation
5. Internet

B. 1. False 2. False 3. True 4. True

C. 1. name, address, PIN Code — (c) to be written clearly before posting a letter
2. speed post — (a) costlier than ordinary post
3. a fax machine — (d) sends and receives photographs, pictures and messages immediately
4. Verbal communication — (e) speaking to someone
5. non verbal communication — (b) communicating through signs

D. 1. Communication is the art of sending or receiving messages and information.
2. Means of communication are various ways of communication, like.
(a) Postal communication — letters, speed post, registered post
(b) Electronic communication — Telephone, mobile, Fax, Internet.
3. Speed post — The post office offers a service called speed post which delivers letters and parcels much faster. It is costlier than ordinary post.
4. We use mass media to communicate with large number of people at the same time. Examples of mass media are radio, television, newspapers etc.

E. Do yourself

F. Do yourself

Chapter [11]

Pottery

A. 1. pottery 2. clay
3. air bubble 4. kiln

B. 1. False 2. True 3. False 4. False

C. 1. (c) baking (other two are methods of making pots)
2. (c) ghatam in earthen

D. 1. The art of making pot is known as pottery.
2. Preparation of dough for making pots—
- Clay is crushed properly and sieved.
- Fine clay is then kneaded by adding water. Dough is ready in a day or two.
3. (i) crushing of collected clay
(ii) kneading (iii) making pot
(iv) sun dying (v) making the surface smooth (vi) baking.
4. The pinched method
A ball of wet clay is taken. It is pinched and pressed using thumb and fingers to give desired shape. The pot is then dried.

E. d – 1, f – 2, a – 3, e – 4, b – 5, c – 6

F. Do yourself

Chapter [12]

Plants World

A. 1. terrestrial plants 2. aquatic plants
3. shoot 4. root
5. living

B. Uses of plants
(a) Plants give us food. (grains, fruits, vegetables etc.)
(b) Plants make our air clean and fresh.
(c) Plants are home to many birds and animals.
(d) They give us medicines.

C. 1. True 2. True 3. False 4. False
5. True

D. 1. (c) Mint 2. (c) Lotus
3. (a) trunk 4. (c) Pumpkin

E. 1. Photosynthesis — The process of making food by green plants is called photosynthesis. Green plants need air, water and sunlight for making their food.
2. Trees — Banyan, mango
Shrubs — Tea, rose
Herbs — Spinach, mint
Climbers — money plant, pea
Creepers — Pumpkin, watermelon
3. Plants grow almost everywhere. They grow on land as well as in or near water.
4. See answer to question B (uses of plants)
5. Plants which grow on land are called terrestrial plants.

F. Do yourself

G. Do yourself

Chapter [13]

Animals Around Us

A. 1. herbivores 2. Land (*'wild' word cannot be used here because many wild animals are aquatic also*)

3. Nocturnal 4. extinct
5. Blue whale

B. 1. False 2. True 3. False 4. True
5. True

C. 1. (a) Donkey 2. (c) Gorilla
3. (b) carnivore 4. (a) Bat

D. 1. The animals which eat plants and their product are called herbivores. *Example*— cow, deer
2. The animals which eat flesh of other animals are called carnivore animals.
Example— Lion, tiger
3. The animals which eat plants as well as animals are called omnivores.
Example— Bear, crow
4. Animals that are active during night are called nocturnal animals like- bat, owl, cockroach etc.

E. Do yourself

F.
- Animals which can fly — birds, mosquitoes, butterflies, bees.
- Animals which live on land — cows, oxen, elephants, tigers.
- Animals which live in or near water — fish, snails, crocodiles, snakes.

Chapter [14]

Air Around Us

A. 1. breeze 2. gases
3. Oxygen 4. Polluted air

B. **Match the following :**

1.	Pollution	(b)	cough and asthma
2.	Oxygen	(c)	helps us burn things
3.	Cars and buses	(a)	release exhaust fumes
4.	Plants	(e)	filter dust from air
5.	Aerosol	(d)	gases from sprays, air conditions

C. 1. False 2. True 3. False 4. True

D. 1. Air is a mixture of gases like nitrogen, oxygen and carbon dioxide. It also contains water vapours and dust particles.
2. Air is useful to us in the following ways :
(a) We need air to breathe. All living things need air to stay alive.
(b) Air helps in burning things.
(c) Green plants need air to make their food.
(d) air helps birds to fly and sailboat to sail.
3. Causes of Air pollution are—
(a) Exhaust fumes or harmful gases from vehicles.
(b) Burning of coal, petrol, diesel and wood.
(c) Harmful gases are released from chimneys of factories.
4. Ways of keeping air clean—
(a) Plant more and more trees. They make our air fresh and clean.
(b) Use public transport instead of personal vehicle.
(c) Do not burn plant materials / leaves.

E. 1. Walk or ride a bicycle when we can.
2. Do not burn dead leaves.
3. Use carpool
4. Use unleaded petrol and CNG.

F. Do yourself

Chapter [15]

Water Around Us

A. 1. Rain water
2. Water conservation/Rain water harvesting (Rain word is not given in question)
3. Liquid water, water vapour and solid ice.
4. ice

B. 1. (c) water vapour 2. (b) three
3. (b) clouds 4. (c) water cycle

C. 1. Ice 2. Water vapour
3. Clouds 4. Sun

D. 1. The process in which water changes into water vapour and forms clouds, after that it returns back to earth as rain, is called water cycle.
2. Three forms of water are
Liquid water, water vapour and solid ice
3. The method of collecting rain water and conserving it is called rainw ater harvesting.
4. Ways to save water—
- Avoid wastage of water, use bucket instead of showers.

- Get the leaking taps repaired.
- Do rain water harvesting
- Reuse water from bathroom/kitchen for watering plants.

E. Do yourself

F. Do yourself

Chapter [16]

The Earth and the Universe

A. 1. Sun 2. Solar System
3. Full moon 4. Constellation

B. 1. True 2. True 3. True 4. True

C. 1. A group of stars that form a definite pattern in the sky is called constellation.
2. Stars appear smaller in size because they are very far away from us.
3. The moon appears in different shapes. These shapes are called phases of the moon. These are new moon, crescent moon, half moon and full moon.
4. **Sun—**The sun is our nearest star. The sun forms the centre of our solar system. It is a very big ball of fire. All planets of the solar system revolve around the sun. It gives us light and heat.

D. Do yourself

E. Do yourself

F. Do yourself

Environmental Studies 4

Chapter [1]

Living and Non-living Things

A. Match the following columns :

1. Earth worm	(a) skin
2. Fish	(c) gills
3. Human beings	(d) nose
4. Leaves	(b) stomata

B. 1. True 2. False 3. True 4. True

C. 1. energy 2. Oxygen
3. Leaves 4. viviparous
(*It is not correct to say the living things which give birth to young ones are called mammals. Some mammals do not give birth to young ones, they are egg laying. Secondly, some sharks and snakes give birth to young ones*)
5. stomata

D. 1. Living things— Things that breathe, take food and water, grow and produce their own kind. *Example*— ant, earthworm, fish, frog, human being.

2. Things which do not show signs of life and do not need food, water and air are called non-living things. They neither grow nor produce their own kind.
Example— chair, pencil, eraser, car, tumbler (glass)

3. Characteristics of living things :
- All living things need air to stay alive
- All living things need food and water
- All living things grow
- Living things move on their own
- All living things produce their own kind.

4. Living things need oxygen present in air to breathe. Aquatic animals like fish use oxygen dissolved in water.
Breathing keeps them alive.

5. Living things produce their own kind.
- Plants reproduce through their seeds.
- Some animals lay eggs. Their young ones come out of these eggs (Bird, Turtle etc.).
- Some animals give birth to young ones. Examples are cow, horse, dog, cat etc.

E. Do yourself

F. Do yourself

Chapter [2]

Plant and Its Life

A. Name the following :
1. Root 2. Stamen 3. Pistil/carpel
4. Leaves 5. Trunk

B. 1. Root is the underground part of the plant that fix the plant in the soil and absorb water and minerals from the soil.
Two main types of roots are—
(a) Taproot — as in mustard, radish, carrot
(b) Fibrous root — as in wheat, maize, grasses

2. The shoot system includes all those parts of a plant that grow above the ground. Shoot system consists of stem, leaves and flowers.

3. Taproots — A taproot has a thick main root. Several thinner lateral and side roots arise from the main root. The side roots are further taking place to produce finer roots. *Example*– mustard.

4. Fibrous roots—In some plants like maize, wheat, grass etc. there is no main root. A bunch of equally thick (fibre like) roots grow from the base of the stem. Fibrous roots spread beneath the surface of soil and do not go deep.

5. Functions of the Root
- The main function of the root in to absorb water and minerals from the soil.
- Roots fix the plant firmly in the soil.
- Some special types of roots perform special functions, like– providing support, storage of food etc.

6. **(a) Functions of stem**
- It carries water and minerals from the roots to the leaves.
- Stem carries food prepared by leaves to different parts of the plant.
- It bears leaves, flowers and fruits. Some stems store food also.

(b) Functions of Leaves
- The main function of the leaves is to prepare food by photosynthesis.

- The leaves release water in the form of vapour from their surface. It keeps the plant cool.
- Leaves have stomata for breathing.

C. 1. food 2. Food storage
3. Stem, leaves, flowers
4. Aerial 5. Tap root

D. 1. True 2. True 3. False 4. False

E. Do yourself

F. Do yourself

G. Do yourself

Chapter [3]

Food From Field to Home

A. Name the following :
1. Farms 2. Crop
3. Cultivation/Farming/Agriculture
4. Fertilizers 5. Irrigation
6. Harvesting

B. 1. Ploughing is a method of making the soil loosen and aeroted. This step of preparation of soil makes the soil fit for cultivation. It is done by using a plough or by a tractor.
The fertilizers and manures are added to the soil to make it rich in nutrients is called enrichment.

2. In the presence of favourable conditions of water, air and sunlight, the seeds germinate and grow into young plant.
Various types of pesticides are used to protect the growing plants and to store grains from the attack of pests.

3. (a) Harvesting—Cutting/reaping of ripe crop is called harvesting. It is done with sickle or machine harvester at appropriate harvesting time.
(b) Threshing—Threshing is the process in which grains are separated from their outer covering of husk or chaff.
(c) Winnowing—The process of removal of the husk to get clean grain is called winnowing. It is usually done under the influence of air.

4. The crop products are packed and sent to wholesale market by trucks. From there they are sent to local mandi for further distribution. The distributors then sell them to retailers from where we buy them.

5. Food products from plants—
Cereals—Wheat, rice, maize, sorghum, millets etc.
Pulses— Gram, mung bean, Urad, pigeon pea, kidney beans.
Fruits — Apple, mango, banana, watermelon.
Vegetables—Lady's finger, potato, brinjal etc.
Sugar, spices, tea, coffee, oil etc.

6. Irrigation—Like all other living organisms, plants too need water to stay alive and grow. Irrigation is the process of providing water to the crops. (Watering the plants is called irrigation)
Water is needed for seed germination, growth and flowing/fruiting of plants. Plants can not live in the absence of water.

C. Ploughing— Enrichment—sowing—Irrigation—Protection/Prevention—Harvesting—Threshing—winnowing—Packing and distribution.

D. 1. True 2. True 3. True
(*Usually the fruits are fleshy and juicy, but they may be dry (like cereal grains) coconut, grass, nuts etc.*)

E. 1. Vitamins and minerals
2. Threshing
3. Winnowing
4. Pesticides, insecticides.
5. Irrigation.

F. Do yourself

G. Do yourself

Chapter [4]

Food and Its Nutrition

A. 1. Proteins 2. Carbohydrates
3. Fats 4. Vitamins
5. Minerals

B. 1. Substances present in food that help our body to grow, produce energy, repair wear and tear and fight diseases are called nutrients.

2. A diet that contains all the essential nutrients in right amount is called a balanced diet.
3. Carbohydrates and fats both provide energy. Carbohydrates release energy very quickly while fats are not instant source of energy. (They do not provide energy immediately)
4. Vitamins are important nutrients and are needed in small amount to keep our body healthy. They are carbon containing (organic) substances.
   Minerals do not have carbon. They are also required in small amount but are essential for proper functioning of the body.
5. Cooked food can be preserved by refrigeration using chemical preservative, sweetening, canning uncooked food can be preserved by drying, salting and sweetening etc.
6. Proteins are considered as body building food. They are needed to build muscle, for the growth of bone and repair of worn out past.
7. Roughage, though not treated as a nutrient, in an important component of our food. Roughage or fibre helps in digestion and smooth movement of bowels every day.

C. (a) Fat (b) Protein
(c) Vitamins/minerals (d) carbohydate
(e) Protein (f) Carbohydrate

D. 1. Carbohydrate
2. Mineral and vitamins (all the nutrients)
3. Water 4. Fats 5. Iron

E. 1. False 2. True 3. True 4. True
5. True

F. Do yourself

G. Do yourself

Chapter [5]

Our Internal Organs

A. Match the following :

1. Brain	(b) nervous system
2. Heart	(d) circulatory system
3. Kidney	(e) excretory system
4. Stomach	(a) digestive system
5. Lungs	(c) respiratory system

B. 1. Organs of the body which are visible from outside are called external organs. *Example*– hands, eyes, etc. The organs situated inside the body and not visible externally are called internal organs. *Example*– heart, lungs etc.
2. The muscles attached to bones can be moved as per our will. They are called voluntary muscles, like— muscles of our hand, leg etc.
   There are many muscles in our body over which we do not have any control (we cannot move them according to our will). These are called involuntary muscles. For *Example*— muscle of wall of gut and muscles of heart.
3. **Function of Brain—**Brain is the main control centre of the body. Through various nerves it controls and coordinates the working of all other system of our body. It stores memory and involves itself in the process of taking decision. It is a seat of intelligence.
4. We all need air (oxygen) for breathing. It is essential for keeping us alive. When we breathe in or inhale air, it fills the lungs. During breathing in, chest expands. In lungs the oxygen mixes with the blood and when we breathe out or exhale, the dirty (carbondioxide rich) air goes out of the lungs.
5. Kidneys are main excretory organ of our body. Their main function is to filter the blood to remove waste from it in the form of urine. Thus, kidneys form urine containing waste material that is removed from the body.
6. Digestion is a process in which complex insoluble food items are converted into simple soluble nutrients that can be absorbed in the body.
   Digestion starts from the moment we put food into our mouth. Teeth cut and chew the food. The saliva has digestive juice. It converts the starch of the food into sugar. Some proteins of the food are digested in stomach. From stomach the semi digested

food goes to small intestive. Here the bile juice of liver, juice of pancreas and juice of intestine complete the digestion of food.

7. The function of the heart is to pump blood to various parts of our body.

C. 1. Auricle 2. Ventricle
3. Heart rate 4. The Heart
5. Blood vessels

D. 1. Diaphragm, 2. Cardiac muscle,
3. Nephron, 4. Skeleton.

E. Label the following diagram

Mouth	Salivary Glands
	Esophegus
Liver	Stomach
Gall bladder	Pancreas
	Large intestine
Appendix	Small Intestine
	Rectum
	Anus

F. (a) Lungs – Lung cancer, asthma
(b) Stomach – Gastritis, Dyspepsia
(c) Heart – Heart attack, Arrhythmia
(d) Brain – Brain tumors, Dementia

G. Do yourself

Chapter [6]

Teeth and Tongue

A. 1. Brush the teeth twice daily before breakfast and after dinner.
2. Avoid eating too many candies, chocolates.
3. Change your brush after 3 months.
4. Eat raw fruits and vegetables.
5. Gargle after eating anything to remove food particles struck in between teeth.

B. 1. Two sets of teeth are—Milk teeth and permanent teeth.
2. Temporary Teeth—Milk teeth are called temporary teeth. This first set of teeth has total 20 teeth. The first tooth appears when the child is about 6 months old and all milk teeth fall off by the age of 6-8 years.
3. Permanent teeth—The set of teeth that appears when the milk teeth fall of, is called permanent teeth. There are total 32 permanent teeth. They appear between the age of 6 to 12 years. Out of these 32 teeth, 4 wisdom teeth appear when a person is about 20 years old.
4. Structure of a tooth—The portion of a tooth seen above the gum is called the crown. The portion of the tooth that remains hidden in the gum and jaw bone is called the root. The crown has a covering of hard white shiny substance called enamel. Inside the enamel is present dentine. It is the main part of the tooth. The central portion of tooth is called pulp. The pulp has blood vessels and nerves in it.
5. (a) Incisors—These are chisel shaped cutting teeth, they form the front teeth in each jaw are called in cisors. Each jaw has 4 incisors (total 8).
(b) Canines—There are two canines in each jaw on either side of incisors. They help in tearing the food.
(c) Premolars—Next to canines, there are 4 premolars in each jaw (2 on either side). Premolars are broad and flat teeth. They are also called cracking teeth.
(d) Molars— Molars are known as grinding teeth. They are broader than premolar. There are six molars in each jaw.

C.

Name	Other Name	Total Number	Use
1.Incisor	Cutting tooth	8	Cutting/ biting
2. Molar	Grinding tooth	12	Grinding
3.Premolar	Cracking tooth	8	Cracking
4. Canine	Tearing tooth	4	Tearing

D. 1. Enamel 2. Incisors
3. Tooth decay/Tooth Cavity/Dental Care
4. Tongue 5. Gums 6. Teeth

E. 1. False 2. True
3. False (*A fork has two or more pointed ends but canines are dagger like*)
4. False (*There are 6 molars in each jaw*)
5. False

F. Do yourself
G. Do yourself

Chapter [7]

Animals and their Habitat

A. Habitat word is usually not used for domestic animals. These are shelters or barns (These are man made)

1.	Cow	–	shed
5.	Ant	–	Anthills
2.	Horse	–	Stable
6.	Ducks	–	Coops
3.	Lion	–	Dens
7.	Mongoose	–	Barron
4.	Rabbit	–	Burrow
8.	Bear	–	Den

B. 1. (a) Habitat— Living or dwelling place of an animal is called its habitat.
(b) Adaptation — Special features of organisms which enable them to live successfully in a particular type of environment are called adaptations. For example– presence of wings in an adaptation of birds.

2. The habitat provides the animals the suitable conditions of environment, food, water etc. A habitat can be as big as a forest or small as a pond.

3. Depending upon their habitats, animals can be categorised into following groups :

(a) (i) Arboreal animals — living on trees - monkeys, baboons.
(ii) Living in plains, grassland - Lion
(iii) Burrowing animals - Hare, rabbit, mangoose

(b) Aquatic animals
Fresh water animals – Fish Rohu
Marine Animals – Sharks, whales

(c) Amphibians— Animals living on land as well as water, such as – frog and toads.

(d) Aerial Animals— Spent most of time in air, such as – birds.

4. Animals which live on land are called terrestrial animals, like– lion, tiger, deer etc.

5. Hibernation—A long winter sleep is called hibernation. During this period animals sleep throughout the cold winter season under the ground, in a den or burrow or tunnel, like– polar bear.

6. Animals which live in water are called aquatic animals.
Most of the aquatic animals have gills for breathing they use oxygen dissolved in water.
Some aquatic animals like-whale, dolphins, turtles etc. breathe through their lungs.

7. Animals which can live on land as well in water are called amphibians.
Frog and toads are common examples of amphibian animals. They need water for laying eggs. Crocodile and alligator are called amphibious, though they do not belong to class amphibia.

C. 1. Arboreal 2. Anthill
3. gills 4. Moist skin
5. Aerial animals

D. 1. False 2. True 3. False 4. False
5. True

E.

1.	Lion	Deer	Rabbit
2.	Monkey	Chimpanzee	Baboon
3.	fish	Whale	Dolphin
4.	Frog	Toad	Salamander
5.	Parrot	Kite	Sparrow
6.	Polar bear	Frog	Lizards

F. Do yourself
G. Do yourself

Chapter [8]

Different Occupations

A. Name the following :
1. Fisherman 2. Mechanic
3. Potter 4. Pilot
5. Carpenter 6. Architect

B. 1. Occupation—Any type of work that helps us to earn money on regular basis is called an occupation.

2. People choose different occupations depending upon their abilities, skills, interest or need.

3. Skill based jobs are—Pottery, painting, sculpture art, news reading or anchoring,

performing art.

4. Farmers grow different types of crop plants. Farming is often associated with raising livestock or cattles.
5. An electrician is a person who fits wires, switches and repairs electrical appliances.
6. A uniform helps us to indentify particular type of profession. Pilots, doctors, soldiers, policemen and nurses have special uniform.

C. (a) Doctor (b) Pilot
(c) Postman (d) Police
(e) Driver (Chauffeur) (f) Soldier

D. 1. money 2. Farming 3. mining 4. A tailor
5. Fishing (Fisherics)

E. 1. True 2. True 3. False 4. False
5. True

F. Do yourself

G. Do yourself

Chapter [9]

Our Country India

A. Name the following :

1. (a) Indian Ocean (b) Arabian sea
   (c) Bay of Bengal
2. (a) Pakistan, Afghanistan
   (b) China, Nepal, Bhutan
   (c) Bangladesh, Myanmar

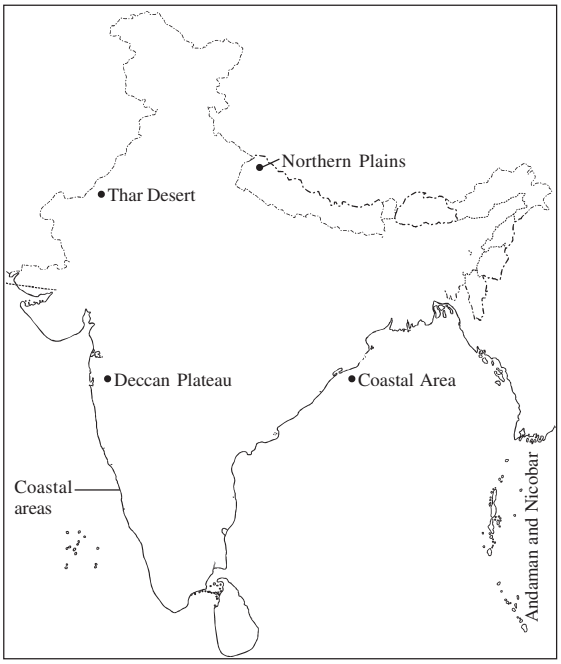
B. 1. Main physical features of India
   (i) The Himalayan mountains
   (ii) The Northern plains
   (iii) Indian Desert
   (iv) The Deccan Plateau
   (v) Coastal Plains
   (vi) Islands

2. Mountains are very high lands which have pointed peaks. The Himalayas or Himalayan mountains form the highest mountain ranges in the world.
3. New Delhi is the capital of India.
4. Define
   (a) Plain — A plain refers to an area of flat land.
   (b) Plateau — A plateau in a high land which has a flat top.
   (c) Coast—The coast, also known as coastline is the area where land meets the sea or ocean.
   (d) Desert—A desert is an extremely dry area of land often covered with sand. It receives very little rainfall.
   (e) Island—An island is a piece of land surrounded by water on all sides.
   (f) Peninsula—The stretch of land which is surrounded by water on three side is called a peninsula.

C. 1. Coast 2. Desert 3. Deccan Plateau
4. Peninsula
5. Andaman and Nicobar islands, Lakshadweep islands.

D. 1. True 2. True 3. False 4. False
5. True

E. See the map



F. Do yourself

G. Do yourself

Chapter [10]

States and Union Territories of India

A. 1. President 2. Prime Minister
3. Governor 4. Chief Minister
5. New Delhi

B. 1. India has one-sixth of the world's population.
2. India has 28 states and 8 union territories (Dadra & Nagar Haveli and Daman & Diu have become a single union territory from 26th January 2020.)
(These are now named Dadra & Nagar Haveli and Daman & Diu. Its capital is Daman.)
3. National Capital Territory of Delhi.
4. Sir Edwin Lutyens designed New Delhi during British rule. The Prime Minister is the head of the central government. He/She is considered actual leader of the government.
6. At present Mr Arvind Kejriwal is the CM of Delhi.

C. 1. Chandigarh 2. Shimla
3. Gandhinagar 4. Chandigarh
5. Jaipur 6. Kolkata 7. Patna

D. 1. 1/6th 2. Central 3. Chief Minister
4. Sir Edwin Lutyens 5. Amaravati

E. 1. Andaman & Nicobar (c) Port Blair
2. Lakshadweep islands (e) Kavaratti
3. Meghalaya (a) Shillong
4. Assam (b) Dispur
5. Jharkhand (d) Ranchi

F. Do yourself

Activity Time- Do yourself.

Chapter [11]

Water

A. Complete the following :
1. Ice 2. Water Vapour
3. Water 4. Water

B. 1. Properties of water
(i) Pure water is colourless
(ii) Pure water is tasteless
(iii) Pure water is odourless (*without any smell*)
(iv) It exists in three forms–liquid, solid and gas.
2. Three forms of water are liquid water, water vapour and ice (solid)
3. Water is liquid, ice is solid and water vapour is in gaseous form.

Water	**Ice**	**Water Vapour**
Liquid	Solid	Gaseous
Does not have fixed shape. It takes the shape of the container.	Has fixed shape	Does not have fixed shape

4. The rivers which have water all the year round are called perennial rivers. The rivers that are formed from the melting snow on the Himalayan mountains are known as perennial rivers.
5. The main source of water is rain. This water in stored by making dams, reservoirs, ponds and pools. Reserviors are man made lakes.
As it does not rain throughout the year, we need to store and conserve water.
Water can be conserved underground also. This is called underground water. It can be recharged by rain water harvesting.

C. 1. solid 2. water vapour
3. Rain 4. Perennial 5. dam

D. 1. False 2. True 3. True 4. False
5. True

E. Do yourself

F. Do yourself

Chapter [12]

Evaporation and Condensation

A. Name the following :
1. Condensation 2. Evaporation
3. Precipitation 4. Dew
5. Water Cycle

B. 1. Change of water into water vapour on heating is called evaporation.
2. Condensation is the process through which water vapours change into liquid water.
3. When the water of any puddle or water body gets heated by the sun, some of this water changes into water vapour. The vapour rises up.

4. Water cycle in very important because—
- it ensures availability of water in the form of rain again and again.
- it affects the water of a place.

5. The wet clothes get dried up quickly by the process of evaporation. Evaporation is affected by many factors. It becomes faster when the weather is windy making the clothes dry quickly.

C. 1. Dew — When water vapour condenses on cold objects like grass or leaves it becomes dew. Dew is formed mainly during early morning when temperature is low.

2. Snow—When water vapour freezes in air, it forms crystals of ice called snow.

3. Fog—During winter, water vapour condenses around the dust particles present in the air and takes cloudy appearance. These cloudy appearance of water near the surface of ground is called fog.

D. 1. faster 2. high 3. dry 4. large 5. dew

E. Do yourself

F. [C] [P] [E]
[C] [E] [C]

Chapter [13]

Pollution

A. Name the following :

1. Atmosphere 2. Noise
3. Pollutant 4. Filtration

B. 1. Pollution means the presence of unwanted substances in air, water or land that can cause harm or discomfort to human beings and other living organisms. Some pollutants are smoke, soot, industrial waste, sewage, pesticides, garbage.

2. An envelope or blanket of air that surrounds the earth from all the sides is called atmosphere.

3. Important gases of atmosphere are—Oxygen, carbon dioxide and nitrogen etc.

4. Air helps us in many different ways—

- Air provides us oxygen to breathe in and stay alive.
- Carbon dioxide is used by plants in making food. So, without air there would be no food.
- Air helps in burning of substances. Coal, wood or any other fuel burn in the presence of air.
- Air carries clouds that bring rain.

5. (a) Presence of unwanted substances (pollutants) that harms us directly or indirectly is called air pollution.
(b) Water pollution —Presence of unwanted things in our water that is harmful to us is called water pollution.
(c) Noise pollution — Presence of unwanted sound or noise is known as noise pollution.

6. We can keep our air clean by—

- Planting more and more trees/plants (trees trap pollutants)
- Strict ban on burning of garbage, leaves etc.
- Vehicles should not release pollutants in the air (should be pollution free)
- Factories should have high chimneys and should be away from the towns.

7. Water in cleared by water works department for domestic use by :
(a) Sedimentation
(b) Filtration
(c) Addition of chlorine to kill germs
Water can be purified by boiling at home.

C. 1. Pollulants 2. Oxygen
3. Many gases 4. Chlorine
(*Chlorine is added in the form of tablet or salts*) 5. noise

D. 1. True 2. True 3. True 4. False 5. False

E. Do yourself

F. Do yourself

Chapter [14]

Natural Resources

A. Name the following :

1. granite 2. clay
3. mining 4. metallurgy
5. crystallization

B. 1. Natural resources are valuable gifts of nature for us. They support life on the earth. Example of natural resources are— air, water, soil, minerals, plants, solar energy etc.

2. The loose top layer of the earth in which the plants grow is called soil.
Soil is formed by a slow process of breaking of rocks into mineral particles. Sun, water, air as well as living organisms help in this slow process of making soil.

3. Types of soil — Different types of soil are alluvial soil, sandy soil, black soil, red soil etc.
Types of soil depend upon a combination of three types of soil particles—sand, silt and clay. These soils have different amount of humans.

4. Minerals are substances that are found naturally under the earth. They occur in and along with rocks. Some minerals are found in oceans also.

5. (a) Crystallization is a process in which the magma cools and solidifies forming mineral crystals.
(b) The process of mining and refining ores is called metallurgy.

6. (a) Igneous rock— Rocks which are formed by the cooling and solidification of molten magma are called igneous rocks, like- granite, quartz etc.
(b) Sedimentary rock — Rocks which are formed by compaction of sediments are called sedimentary rocks. These rocks have layers of mud, sand or sea shells built up over a longtime. Example– Sandstone, limestore, gypsum etc.
(c) Metamorphic rocks— Rocks that change into different form due to heat or pressure are called metamorphic rock. They may be formed from scdimentary or igneous rock. Example marble.

C. 1. ores 2. Sand, limestone 3. Soil 4. igneous rock 5. fossil fuel

D. **Match the following :**

1. Organic part	(c) humus
2. Metamorphic rock	(a) marble
3. petroleum	(d) rock oil
4. Clay	(e) smallest particles
5. Sedimentary rock	(b) underwater

E. 1. False 2. True 3. False 4. True 5. True

F. Do yourself

G. Do yourself

Chapter [15]

Celestial Bodies

A. **Name the following**

1. The Sun 2. Constellation
3. Earth 4. Jupiter
5. Mercury

B. 1. Satellites are objects that revolve around the planets like moon (a satellite of the earth).

2. The solar system— The solar system consists of the sun, the eight planets and their satellites along with other heavenly objects. All the eight planets resolve around the sun.

3. Visible patterns formed by stars in the sky are called constellations.

4. Eight planets of solar system are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

5. Two types of movements of the earth are:
Rotation— Spinning of the earth on its axis is called rotation. The axis is an imaginary lie running from the North pole to the South pole. It is tilted at an angle of 23.5°. Rotation of the earth causes day and night.
Revolution—The movement of the earth

around the sun in called revolution. The earth takes 365¼ days to complete one revolution. Revolution of the earth is responsible for the different seasons on the earth.

C. 1. Saturn 2. The Sun
3. 8 4. Mercury
5. revolution.

D. 1. True 2. True 3. False 4. False
5. True

E. Do yourself

F. Do yourself

Environmental Studies 5

Chapter [1]

Family Resemblance and Traits

A. 1. Do yourself (Related to your family)

B. 2. Do yourself (Related to your family)

C. 1. Characteristics/Habit

2. displacement
3. identical
4. family
5. adoption

D. 1. True 2. False 3. True
4. False 5. True

E. **1.** Sometime, members of a family share some similarities, like colour of eyes or hair. This is called family resemblance.

2. A group of people living together, sharing joys and sorrow is called a family. Sometimes the family members share some common habits or characteristics. These are called family traits. These traits often pass over to the next generation.

3. Children born at the same time to the same mother are called twins. Two types of twins are—

- Identical twins
- Fraternal or non identical twins

4. When a child is legally taken into one's family, it is called adoption.

5. **(a) Displaced People—**Sometimes many people are forced to leave their homes due to natural calamaties such as-flood, drought, earthquake etc. Such resettlement of people to a new place due to above mentioned reasons is called displacement. We say that the people have been displaced.

(b) Shifted People—When people move to another place due to reasons like a job change or to live independently, we say that they have shifted.

(c) Migrated People—Sometimes people leave their home due to some economic reasons. These reasons may be construction of a dam, highways etc. In such cases, we say that the people have migrated.

(d) Transferred People—When someone is asked to move from one city or office to another city or office in order to meet the requirements of the organisation where he/she works, we say that the person has been transferred.

F. Do yourself

G. Do yourself

■

Chapter [2]

Games We Play

A. 1. mental, physical 2. Indoor
3. outdoor 4. Players 5. Coach

B. 1. False 2. False 3. True
4. True 5. True

C. **1.** **Indoor Games—** Games that can be played in an enclosed place or building are called indoor games. Examples- chess, cards, table tennis etc.

Outdoor Games—Outdoor games are played in playgrounds or parks. Some common outdoor games are cricket, football, hockey etc.

2. **(a) Team Game—** A team game requires two teams with multiple players each in order to be played. Cricket, football, basketball etc. are examples of team game where one team plays against the other.

(b) Individual Game—Games which are played by a single person are

called individual game. Examples of individual games are archery, air rifle etc. Here, a player has to perform and achieve success based on his/her own performances.

(c) **Double Games—**In games like badminton, lawn tennis etc., two players play together as a team. Such games are called double games.

(d) **Mixed doubles—**The double game in which each team has a male and a female player is known as mixed doubles. For example — badminton, Lawn tennis etc.

3. When players play and support others selflessly in the interest of their team, it is called team spirit.

4. **Characteristics of a good captain**
   - A good captain must be trustworthy.
   - A good captain inspires and motivates the entire team.
   - A good captain sets an example for the team-mates.
   - A good captain recognises the contribution of each team member.
   - A good captain is passionate, dedicated and focussed.

5. **National Team**
   To participate in international competitions of various games and sports we have national teams.
   A national team consists of players from different states (parts) of the country. All the players play together for their nation as a team.

D. 1. **Players —** Players are the people who are involved in playing that game.

2. **Opponent —** Opponent in an individual or a team that you are playing against to win the game.

3. **Substitute —** Substitute is a player who is kept on hold. He is asked to play only when a player, who has been playing, gets injured.

4. **Coach —** Coach is a person who trains the player for a game.

5. **Referee —** Referee is a person who watches over the game closely so that no foul play is done. A game may have one or more than one referees.

E. (a) **Pachisi —** Pachisi is a traditional board game. Its name has been derived from Hindi word *pachis* meaning twenty five. It is similar to Ludo and is played using shells or cowries. Twenty five is the highest score that can be scored by a player.

(b) **Kabaddi—**Kabaddi is also a traditional game that has become popular nowadays. The game is played in a field which is divided into two halves. Two teams occupy opposite halves. They send their raider one by one into opponents part to win points by tagging the members of the opposite team.

(c) **Mallkhamb—**Mallkhamb is an ancient art and skill in which players display balancing act on a pole. This unique game requires excellent physical and mental health, strength, stamina as well as coordination.

(d) **Yubi-Lakpi—**Yubi-Lakpi is played in Manipur and is quite similar to rugby. Yubi means coconut and Lakpi means snatching. There are two teams. The players of one team have to snatch a well-greased coconut from the game point.

F. 1. (b), 2. (a), 3. (c)

G. Do yourself

■

Chapter [3]

Every Breath We Take

A. 1. (b) inhalation 2. (a) two
3. (b) oxygen 4. (b) windpipe

B. 1. nostrils 2. bronchi
3. Carbon dioxide 4. inhalation
5. stomata

C. 1. **Respiration —** The process of releasing energy by the breakdown of the food we eat is called respiration.

2. (a) **Nose —** Nose forms the first part of

our respiratory system. It has two openings called nostrils through which we breathe in and breathe out. Inside the nose there are tiny hair. These hair trap the inhaled dust particles, thus preventing the dust to enter deep in our body.

(b) Windpipe — Windpipe is a long thin walled tube that forms air passage and connects our throat region to the lungs. In chest it branches into two smaller tubes called bronchi (singular bronchus).

(c) Lungs — Lungs are our respiratory organs. There are two spongy, pink coloured, elastic bag like lungs present in our chest cavity. The lungs are protected by rib cage. The lungs have millions of very thin walled sacs and are richly supplied by blood. Exchange of gases takes place in the lungs.

3. The tiny hair present in nose trap the dust particles. They, thus, prevent the dust to enter our body and ensure supply of dust free clean air.
4. **Respirating System in Human being—** The body parts that together help us to breathe form our respiratory system. Human respiratory system consists of nose, windpipe and lungs. The respiratory system, thus, represents a pathway from the nose to the lungs.
   The air enters the body through the nose. It passes through the cavity of the nose or nasal passage and then enters the windpipe. The windpipe takes the air to the right and left lung through its branches.
   The respiratory system is involved in—
   Breathing — inhalation and exhalation
   Exchange of gases in lungs.
5. Lungs are the main respiratory organs of our body. Exchange of gases takes place in the lungs.
   In lungs, Oxygen mixes with the blood.
6. Good breathing habits—
   - It is good to breathe through the nose. We should not breathe through the mouth.
   - While coughing/sneezing we should cover our mouth.
   - We should not cover our nose while sleeping.

D. Match the columns :

A	B
1. Inhaled air	(c) rich in oxygen
2. Carbon dioxide	(a) given out during respiration
3. Oxygen	(d) help release energy from ford
4. Exhaled air	(b) contains carbon dioxide.

E. Air → Nose → Windpipe → Bronchi → Lungs

F. Do yourself

G. Do yourself

Chapter [4]

Digestion of Food

A. 1. teeth 2. brain
3. mechanical 4. oesophagus
5. anus

B. 1. True 2. True 3. True*

* (Saliva also has digestive juice that breaks down the food into smaller pieces. Due to this reason only, a bread piece starts tasting sweet when chewed for some time and the non sweet breads turns into sugar.)

4. True 5. True

C. Match the following :

A	B
1. Oesophagus	(d) food pipe
2. Stomach	(a) food in mixed with special juices
3. Small intestine	(e) absorption of nutrients
4. Large intestine	(b) asborption of water
5. Rectum	(c) faeces

D. 1. The taste buds of tongue detect the taste and send message to our brain. Actually taste and smell together help us to taste food.

2. The food is digested by two processes :
   (a) **Mechanical digestion**— The teeth break down the food into smaller pieces.
   (b) **Digestion by digestive juice** — Digestive juice of saliva, stomach and intestine convert the complex, insoluble food into simple mobile nutrients.

3. In the stomach, the food mixed with special juices that are acidic in nature. These juices break down the food.

4. The entire passage of organs through which the food passes from its intake to the removal as faeces is called alimentary canal.
   It is a tube that starts from mouth and ends in anus, and here digestion and absorption of food take place.

5. **(a) Oesophagus —** The food pipe or oesophagus is a long muscular tube that carries swallowed food to the stomach. It simply transfers swallowed food to stomach. There is no digestion of food in oesophagus.
   (b) Stomach — stomach is broadest bag like part of tube as alimentary canal. The food gets mixed with digestive juices in the stomach. These juices break down the food.
   (c) Small Intestine — Digestion of food finally completes in small intestine. Small intestine is a long tube where absorption of digested food takes place. It opens into large intestine.
   (d) Large intestine — In the large intestine, water is absorbed from the undigested food. The undigested food is then passed on to the rectum.

6. Liking or disliking a particular taste is influenced by our sense of sight and smell also. The nose smells the food and excites our taste buds. The aroma of hot food makes us wet our mouth. Similarly sight of favourite food like sweets or ice creams excites taste buds, on the other hand rotten or spoiled food items are not exciting ones to eat.

E. Do yourself

F. Do yourself

■

Chapter [5]

Growing Plants

A. 1. Seed coat 2. Embryo
3. germination of a seed
4. wind 5. the bulb

B. Name the following :
1. Monocot seed 2. Dicot seed
3. Seed coat 4. Embryo
5. Cotyledons

C. Give examples of the following :
1. cotton, poppy, dandelion
2. coconut, waterlily
3. Balsam, lady's finger, pea
4. Fig, Xanthium, Tribulus

D. 1. False 2. False 3. False
4. True 5. True

E. 1. Most of the plants reproduce through seeds. Some plants reproduce through their body parts like potato, some lower plant like fern and moss produce seeds for reproduction.

2. Structure of a seed — Each seed has following main parts :
- **Seed coat —** It is the hard, protective outer covering of the seed. It protects the embryo.

- **Embroy (baby plant) —** Each seed has a well protected baby plant in it. When the seed germinates, it forms a seedling.
- **Seed leaves (cotyledons) —** Attached to the baby plant (embryo) are found one or two seed leaves in the seed. The seeds of monocots have only one seed leave (coty ledon) while there are two cotyledons in the seeds of dicot seeds. Apart from these structures there may be additional reserve (Stored) food in the seed. This food is needed for the germination of the seed.

3. **Dicot Seeds —** Seeds having two cotyledons (seed leaves) are called dicot seeds.
Example — Gram, pea, tamarind, ground nut. (Plants with dicot seeds)

4. Seeds with only one cotyledon are called monocot seeds. Examples of plants with monocot seeds — wheat, maize, barley, rice.

5. The process by which a new plant grows from a seed is called seed germination.
Conditions necessary for seed germination are — water, air and warmth.
(a) **Water —** Water is essential for the germination of the seeds.
(b) **Air —** Seeds also need air (oxygen) for germination.
(c) **Warmth —** Warmth promotes seed germination while cold temperature checks germination of seeds.

6. Ways by which the seeds get dispersed—
(a) Dispersal by wind — Seeds of plants that are very small and light in weight get dispersed by wind. Some of these seed have hair or wings that help them to float in the air such as-cotton, poppy, dandelion.
(b) Dispersal through water — Seeds of plants that grow near water bodies are dispersed through water. Their seeds, when fall in water, may be carried miles away from the parent plant before germination. Example- coconut, water lily etc.
(c) Dispersal by birds and animals — Some seeds/fruits have special structures like hooks, spines or rough coverings on their surface that help them stick to the fur of animals Example — Xanthium, Tribulus.
Some seeds spread when people, birds and animals eat the flesh of fruits and throw away the seeds.
(d) Dispersal by Explosion — The fruit walls of plants like balsam, lady's finger pea etc. burst open to spread the seeds by explosion.

7. **Reproduction through Body Parts —** Some plants have the ability to produce new plants from their body parts like roots, stems and leaves etc. Potato, ginger, doob grass etc. are reproduced through their stem. Plants like sweet potato, dahlia and asparagus get reproduced through their roots.
The leaves of bryophyllum produce new plantlets from the buds present on their edges. This is called vegetative reproduction.

F. Do yourself
G. Do yourself

Chapter [6]

Food for Plants

A. Choose the correct option :
1. (c) Photosynthesis
2. (a) Leaves
3. (c) Both (a) and (b)
4. (a) Indian pipe

B. Match the following Columns :

A	B
1. Stomata	(b) pores on leaves
2. chlorophyll	(f) green pigment
3. Stored food	(e) starch
4. Venus fly	(a) insectivorous plant
5. Indian pipe	
6. Guard cells	(d) guard stoma

C. Name the following :

1. Autotrophs - Like mustard
2. Dodder (cusenta)
3. Venus Flytrap
4. Chlorophyll
5. Food factory.

D. 1. Photosynthesis is a process of making food by green plants. In this process, plants use carbon dioxide and water to make food in the presence of green pigment chlorophyll and sun light. Oxygen is released in this process.

2. Food in the form of glucose is produced during photosynthesis. Oxygen is also released out.
3. The process of making food (photosynthesis) mainly takes place in the leaves of the plants. Therefore, leaves are called food factory of the plants.
4. Plants which obtain their food from the other living plants called hosts. They are known as parasitic plants. Example — Dodder (Cuscuta), sandalwood tree, Rafflesia etc.
5. Insectivorous plants are green plants that grow in soil that is poor in nitrogen content. To fulfil the requirement of nitrogen, these plants trap insects and digest them to absorb the nutrients. Example — Pitcher plant, Venus flytrap, Bladdarwort.
6. In nature, both plants and animals are interdependent upon each other :
   - During repiration animals give out carbon dioxide which is used by plants in the process of photosynthesis.
   - Plants release oxygen in photosynthesis that is used by animals during respiration.
   - Several animals, bees, insects and birds help plants in pollination and animals help in dispersal of seeds.
   - All animals get their food directly or indirectly from plants.
7. Raw materials required for photosynthesis are carbon dioxide and water.
   (Photosynthesis also need chlorophyll and sunlight but these are not considered raw material)

E. Do yourself

F. Do yourself

Chapter [7]

Food and Its Spoilage

A. 1. Decayed/spoiled/stale
2. perishable
3. Low/cold
3. drying
5. Pasteurisation

B. 1. True 2. False 3. True
4. True 5. False

C. During Summer, temperature is high and it promotes spoilage :

1. Milk gets spoiled if left on the table for two days.
2. Milk does not spoil if kept in refrigerator for two days.
3. Wheat flour is non perishable. It does not get spoiled if kept in a tin for a month.
4. Wheat dough has a lot of water, therefore, it gets spoiled if kept on the kitchen slab for a day.
5. Uncooked rice is a non perishable food item. These can be kept in a bag for months without any spoilage.
6. If cooked rice is left on the dining table for the whole day, it will spoil.
   It can be concluded that the spoilage of food is directly proportional to the amount of water in food material. More the

amount of water, the greater will be spoilage specially during the summer months.

D. 1. Diseases caused by the consumption of spoiled food are— typhoid, cholera, Gastroenteritis (food poisoning) etc.

2. The main cause for the spoilage of food is the growth of microbes like fungi and bacteria on food item.
Factors like enough moisture (water) and warmth promote the growth of microbes. That is why food spoilage is increased during the summer and in rainy season.
Food items which have lots of water are spoiled easily.

3. Indications of food spoilage :
(a) Persence of white/greenish/bluish or black powdery or cottony growth on fruits/vegetables/breads etc.
(b) Foul smell
(c) Discolouration of grains/seeds
(d) Swollen/raised top or bottom of tin/ can/pack of food item.

4. Food preservation is a method of checking the spoilage of food.

5. (a) Frcezing — Frcezing is a method of preservation of food by storing the perishable food items at very low temperature. Fruits, vegetables, meat and fish can be preserved by this method.

(b) Drying — Drying is a method of preservation in which water content of food item is reduced. Dried food can be stored for long time, methi leaves, cauliflower, ginger, raisins etc. can be preserved by drying.

(c) Salting and sweetening — Certain food items can be preserved by adding salt or a lot of sugar in them. Fruit jellies and jams are preserved by this method. By adding salt or sweet, the growth of microbes can be stopped.

(d) Pickling — In this method of food preservation, salt, oil, spices etc. are added to make vegetables last longer. Pickles of mangoes, chillies are prepared by this method. Excess salt and oil do not allow microbes to grow.

(e) Pasteurisation — This method is used to preserve milk for some longer time. In this method milk is heated at 65°C for few minutes and then suddenly cooled. This kills the gems present is the milk.

6. **Advantages of Food Preservation —**
(i) Preservation checks spoilage and therefore it decreases wastage of food.
(ii) It increases the storage period of food items.
(iii) It makes us enable to store and distribute food items to all parts of the country without spoilage even in off season.

E. Do yourself

F. Do yourself

■

Chapter [8]

Food Deficiency

A. 1. Boiling – milk, soup
2. Salting – Ginger, fish
3. Sweetenings – Jams, jellies, murabba
4. Drying – methi leaves, cauliflower, fish
5. Refrigerating – Fruits, vegetables

B. 1. pulses, milk, egg/meat
2. sugar, bread, rice
3. orange, papaya, spinach

C. 1. nutrients 2. vitamin B
3. protective 4. Rickets 5. Proteins

D. 1. False 2. True 3. True
4. False 5. False

E. 1. Main nutrients of the food are proteins, carbohydrates, fats, vitamins and minerals.
2. Diseases that are caused due to lack of

nutrients in the diet are called deficiency diseases. Examples — goitre, rickets etc.

3. Sources of
   (a) Vitamin B – whole grains, vegetables
   (b) Iron – Green leafy vegetables, gram
   (c) carbohydrates – Bread, rice
   (d) Vitamin A – Yellow orange fruits, milk/egg
4. Deficiency disease of :
   (a) Protein – kwashiorkar
   (b) Iron – Anaemia
   (c) Carbohydrates – Marasmus (and protein Energy)
   (d) Vitamin A – Nigh blindness
5. Malnutrition is the condition resulting due to prolonged lack of nutrients in the body. Malnutrition leads to deficiency diseases. People who do not get enough amount of balanced diet suffer from malnutrition.
6. **Balanced Diet —** A diet that contains all the nutrients in right amount is called a balanced diet.

F. Do yourself

G. Across—
1. Night blindness Down : 4 Beri-beri
2. Marasmus
5. Jaundice
3. Rickets
6. Scurvy

■

Chapter [9]

Our Forests

A. 1. (a) in the caves
2. (a) fruits and nuts
3. (d) leaves and barks of trees
4. (a) by lighting a fire

B. 1. forest
2. natural
3. Evergreen
4. Deforestation/increased concentration of
5. replanting trees/reforestation
6. Jhum cultivation

C. Uses of Forests
(i) Forests provide us fruits, nuts, wood (timber), medicines etc.
(ii) Forests provide shelter and food to wild animals.
(iii) Forests make our air clean and pure by absorbing lots of CO_2 and pollutants.
(iv) Forests help in bringing rain.
(v) Forests prevent soil erosion and floods.

D. Effects of Deforestation :
(i) Loss of habitats (place of living) of wild animals. Many animals and birds die due to this reason.
(ii) It leads to soil erosion (roots of trees bind soil particles).
(iii) Increase in incidences of landslides and floods.
(iv) Amount of CO_2 in atmosphere increases. It leads to global warming.
(v) Water cycle and ecological balance get disturbed.

E. 1. Forest — A forest is a large area of land thickly covered by trees.
Types of forests are — Evergreen forests, deciduous forests, coniferous forests.

2. (a) Evergreen forests — An evergreen forest has evergreen trees that have leaves throughout the year. They are found in areas of heavy rainfall (more than 200 cm annual) and 15°C to 30°C temperature. These forests are rich in diverse types of plants and animals.

(b) Deciduous forests — In deciduous forests, the trees shed their leaves periodically (at the end of growing season).

(c) Coniferous forests — There forests consist of coniferous trees or cone bearing trees like pines, firs, spruces etc. These trees have needle like leaves which remain green throughout the year. There forests are found at high altitude. These trees have branches that point downwards so that snow water slides off them easily.

3. **Tribal People —** People who live in or around forests and use forest products for their survival are called tribal people. They do not cause harm to forests.
4. **Sacred Grove —** A piece of forest land that is protected by local residents or tribal people due to their religious belief is called sacred groove. These people worship trees as well as wild animals. Killing of animals and cutting trees is prohibited in these sacred areas. It is a kind of conservation of forests.
5. **Deforestation —** Cutting or felling down of large number of trees in a particular area to clear land for farming or any other reason is called deforestations.
   For effects of deforestation places see answer to question D.
6. **Control of Deforestation—**
   (i) Strict ban on cutting/felling of trees.
   (ii) Reforestation or replanting trees in the area from where trees have been cut.
   (iii) Afforestation — Planting trees in bare land.
   (iv) Development of alternatives of forest products.
   (v) Spreading awareness about benefits of forests.
7. **Shifting Cultivation —** In this practice of cultivation, tribals cultivate a particular piece of land in forests for two or three years. Later when the land becomes less fertile, they move to new land. They acquire new land by cutting trees. It is also called Jhum cultivation.

F. Do yourself

G. Do yourself

Chapter [10]

Save Wildlife

A. 1. Endangered 2. extinct
3. The Great Indian Bustard
4. 50 5. skin

B. 1. False 2. True 3. True
4. False 5. True

C. (a) Endangered animals — Giant panda, Bengal tiger, rhinoceros, black buck, snow leopard.
(b) Kaziranga National Park, Ranthambore National Park, Gir National Park, Periyar National Park, Keoladeo National Park.
(c) Nahargarh Wildlife Sanctuary, Mount Abu Wildlife Sanctuary, Hastinapur Wildlife Sanctuary, Sukhma Wildlife Sanctuary, Dara Wildlife Sanctuary.
(d)
- Biosphere reserves
- National parks
- Wild life sanctuaries
- Reserve forests
- Tiger reserves

D. 1. Several plants and animals are facing danger of extinction due to deforestation and environmental pollution.
2. Wildlife refers to any wild animal or plant in its natural habitat. These animals/plants are not domesticated and take care of themselves.
   Human activities have threatened wildlife in two ways—
   (a) Destroying their natural habitat to reclaim land for various activities.
   (b) Hunting or killing of animals.
3. Animals that are facing danger of extinction (disappearing) from the earth in near future are called endangered animals. Example — Gir lion, Bengal tiger, black buck, Great Indian Bustard etc.
4. A particular animal or plant is said to be extinct when there are no more individuals of that species alive anywhere in the world.
   It means many species have died due to human activities and the rate of extinction has become much faster than usual.
5. Role of Government in conservation of wildlife— Government has taken several sincere initiatives for the conservation of wildlife. These are —

- Establishment of several biosphere reserves. Setting up of national parks, wildlife sanctuaries, reserved forests, etc.
- Conservation projects like project tiger, project elephant, crocodile project, project Hangul etc.
- Strict ban on poaching and hunting of animals.
- Spreading awareness about conservation of animals.

6. **National Parks —** These are protected areas that provide protection to the entire ecosystem i.e. plants, animals, landscape of that region. These are established by central government for conservation purpose.
   Jim Corbett National Park Uttarakhand was the first national park of India. Visitors are allowed here under special conditions. Example — Kaziranga.
7. **Wildlife Sanctuary —** It is a protected area meant for conservation of wild animals only. (Particular species of animal or bird) Some human activities are allowed if these do not disturb the natural balance. Example — Nahargarh wildlife sanctuary. Mount Abu wildlife Sanctuary.

E. Do yourself
F. Do yourself

Chapter [11]

Fossil Fuels

A. Choose the correct option :
1. (b) Sunlight 2. (c) fuel
3. (a) wind 4. (a) black gold
5. (c) CNG

B. 1. fuel/petroleum 2. fossil fuel
3. carbon 4. collieries
5. petroleum 6. methane

C. 1. anthracite 2. bituminous
3. peat 4. lignite

D. 1. True 2. True 3. True
4. False 5. False

E. 1. Fuel — A material that is burnt to produce energy is called fuel. Fuel is used to get heat, light, cook food and run vehicles.
Fossil Fuel — A natural fuel such as coal or petroleum that was formed millions of years ago due to decay of dead plants and animals buried under the earth.

2. **Two sources of fuels —** Coal and petroleum
3. **Formation of Petroleum —** Petroleum was formed from the remains of plants and animals that died millions of years ago. Due to high pressure and temperature, the buried materials were converted into petroleum.
4. Petroleum refineries of India
   Guwahati, Haldia, Mathura refinery
   Kochi refinery, Mangalore refinery
5. **Conservation of Fuel —** Fossil fuel is non renewable and causes pollution. Therefore, it should be conserved.
   We can do following things to conserve fuel :
   - Use public transport like bus, metro instead of personal vehicles.
   - Walk on foot or use bicycle for short distances. It is good for health also.
   - Keep engine of vehicle fit, get it serviced, keep the engine turned off at red lights/heavy traffic when not in use.
6. **(a) Coal —** Coal is fossil fuel widely used to produce power/electricity and heat. Coal was carlier used in steam engines but now it has been replaced by diesel or electricity.
   Four main types of coal are peat, anthracite, bituminous and lignite, which were different in the amount of carbon. Coal is obtained from coal mines or collieries.
   In India coal reserves are found in MP, Chattisgarh, Bihar, Jharkhand and West Bengal etc.
   (b) Petroleum — Petroleum or crude oil

is also a fossil fuel that is known as 'oil from rocks'. Due to its immense use and limited availability it is referred as black gold. It is refined by fractional distillation to produce fuels like petrol, diesel, kerosene etc. Other substances obtained from petroleum are lubricating oil, paraffin wax etc. It is used in manufacturing of pesticides, fertilizers, paints, packaging material etc.

(c) Natural Gas — Natural gas also represents a type of gaseous fossil fuel. Like coal and petroleum, it was also from dead remains of plants and animals millions of years ago.

It is lighter than air. Natural gas is mostly made up of a gas called methane. It is pumped out from the ground and sent through pipelines to storage area. Compressed Natural Gas (CNG) It is a clean fuel used in cars and buses now a days.

F. Do yourself

G. Do yourself

Chapter [12]

Natural Disaster

A.
1. calamity/disaster
2. earthquake
3. richter
4. cyclone
5. Tsunami
6. dormant

B.
1. Active volcano
2. Flood
3. Avalanche
4. Drought
5. Landslide
6. Seismograph

C. Match the following :

1. Volcanic eruption	(f) Mauna Loa
2. Earthquake	(e) seismographs
3. Flood	(d) Excessive rains
4. Drought	(a) shortage of rain
5. Tsunami	(c) Earthquake under sea or ocean
6. Avalanche	(b) Landslide in snow

D. 1. A natural disaster is the effect of a natural event that causes great loss to the environment and human life. Examples — Earthquake, Tsunami, flood, drought etc.

2. Earthquake — In an earthquake, huge masses of rocks move beneath the earth's surface and cause the ground to shake.

Loss caused by an earthquake :

- Buildings, electric poles and towers get toppled.
- Big trees are uprooted.
- Loss of lives of human beings and their livestock animals.
- Injury - blood loss, fracture, mental trauma
- Several other post earthquake problems.

3. Precautions to be taken at the time of earthquake :

- Do not use any electric gadget
- Do not use lift during or immediately after an earthquake. Use stairs instead.
- Stay away from heavy objects.
- Run out of your house or school building. The safest place is an open space.
- Try to protect yourself under a strong table.

4. Cyclone — Cyclone (hurricane) represents extremly strong rotating winds with heavy rainfall. These winds devastate everything and blow away whatever come in their way including trees, houses and cars etc.

Precautions — Watch out for the weather forecast and warnings if you live in a cyclone prone area. Keep an emergency kit with a torch, food items, water, first aid kit etc. Electric gadgets should be turned off.

5. Flood — Flood is a condition caused due to excessive rainfall or breaking of a dam near a river. Actually sudden outbursts of huge quantity of water leads to flood.

Damage — Floods wash away houses,

agricultural fields, disrupt availability of electricity, communication and transport. It causes loss of life and property. Diseases like cholera, typhoid, hepatitis break out when flood water recedes.

Precautions — Watch out for the news on floods if you live in a flood prone area. During flood do not use electric appliances. Keep a first aid kit and torch/ match box, candles, eatables ready.

6. **(a) Landslide —** When a huge mass of land breaks and slips down a hill washing away everything with it, is called a landslide. Deforestation may lead to landslides.

(b) Drought — Prolonged shortage of rains in an area leads to drought. It causes scarcity of food and water.

(c) Tsunami — A Tsunami is a series of massive ocean waves caused by an earthquake in the sea or ocean. The water level in the tsunami waves can be as high as 100 ft. It has great speed and destructive power.

(d) Avalanche — An avalanche is a landslide that occurs in the snow covered mountains. The moving mass of snow washes away everything with it.

(e) Volcanic eruption — During a volcanic eruption the molten mass (or magma) comes out of the weak crack on the surface of the earth with molten mass is now called lava and brings rocks, gases and ash with it. The lava flows on the surface of the earth. They can wipe out entire forests. It can trigger tsunami.

E. 1. Ambulance - 102/108
2. Fire Brigade - 101
3. Police - 112/100

F. Do yourself

G. Do yourself

Chapter [13]

Water and Its Purification

A. 1. freshwater 2. solubility
3. substances 4. definite or fixed
5. sedimentation 6. evaporation

B. Choose the correct option :
1. (a) Boiling 2. (c) Fresh water
3. (c) Methane 4. (b) Solution

C. 1. Properties of water :
(i) Water is a good solvent. It dissolves many substances.
(ii) Water has a definite or fixed volume but it does not have fixed shape.
(iii) Some materials sink in it while some float.
(iv) It flows from a higher level to a lower level.
(v) It dissolves many gases.

2. **(a) Solution —** When a substance dissolves in a liquid we get a solution (solution = solvent + solute).

(b) Solute — The substance that dissolves in a liquid, is called solute.

(c) Solvent — The liquid (medium) in which a substance dissolves is called the solvent, like- water.

(d) Density — The amount of water present in its unit volume is called density of that substance.

3. **Solubility of a substance —** The ability of a substance to dissolve in a liquid is called its solubility.

4. **Soluble substance —** A substance which dissolves in a liquid is called a soluble substance.

Insoluble Substance — A substance which does not dissolve in a liquid/water is called insoluble substance. Store is insoluble in water.

5. Liquids are measured by their volume. The volume of a liquid can be measured by using measuring vessels (Jars and Cylinders). The volume is measured in litre and millilitre 1 L = 1000 ml.

6. The insoluble impurities of water can be removed by :
(i) sedimentation and decantation (ii) filtration

7. The soluble impurities of water can be removed by evaporation and condensation.

D. Name the following :

1. Litre or millilitre
2. Oxygen, carbon dioxide, nitrogen, ammonia
3. Sand, silt, stones, metal pieces, saw dust
4. Salt, sugar
5. Solvent
6. Volume
7. Condensation

E. Do yourself

F. Do yourself

G. Do yourself

Chapter [14]

Aquatic Life

A. 1. aquatic 2. oxygen
3. mammals 4. crustaceans
5. amphibians

B. Match the following :

A	B
1. Frog	(c) moist skin
2. Fish	(a) gills
3. Dolphin	(b) mammal
4. Swan	(e) webbed feet*
5. Tape grass	(d) Submerged plant

* Frogs also have webbed feet

** It should have been gills not lungs, as lungs are found in frog, dolphin as well as swan.

C. 1. False 2. True 3. True
4. False 5. True

D. 1. Hydrilla, tapegrass
2. Frog 3. Whale
4. Lotus/water hily 5. crab

E. 1. Types of Aquatic Plants

(a) Free floating plants — These plants float freely on the surface of water. These plants multiply quickly like water hyacinth.

(b) Fixed aquatic plants — These plants are rooted and attached to pond bed but have floating leaves. Lotus and water lily leaves are waxy and survive longer in water.

(c) Submerged aquatic plants — Plants like Hydrilla and Tape grass remain completely submerged in water they have narrow leaves.

2. Aquatic plants — Water hyacinth — It is a free floating plant with spongy stem. It has beautiful purple black coloured flower. It grows quickly by vegetative reproduction.

Water lilies — These are fresh water floating plants with fixed roots. Water lily has wax coated leaves.

Hydrilla — It is submerged freshwater aquatic plant. It has thin narrow leaves.

Duckweed — These are free floating plants found in stagnant water. Their growth is luxurient and they form a layer on the water blocking sunlight to lower region.

3. Submerged plants remain completely dipped in water while fixed floating plants have floating leaves which remain in contact with air also.

4. Special features of a swimmer :

- Streamlined or boat shaped body.
- Fins in fish, flippers in whale/ Dolphine.
- Waxy coating / scales to provide protection in water.

5. Crustaceans are aquatic animals which have a hard shell on their body. Examples are- lobsters, shrimps, crayfish etc.

6. Several human activities have become a threat to aquatic life. These are—

- Untreated Sewage is discharged into rivers and seas.
- Water is polluted by industrial units.
- Oil spills from the ships.

F. Do yourself

G. Do yourself

Chapter [15]

Our Monuments

A. 1. Konark 2. Mughal
3. The Taj Mahal 4. Samrat Yantra
5. cave 6. An Iron Pillar

B. 1. False 2. True
3. True 4. True
5. False

C. 1. Red Fort — Shah Jahan (Mughal Emperor)
2. Taj Mahal — Shah Jahan (Mughal Emperor)
3. Konark Temple — King Narsingha Deva
4. Qutub Minar — Qutub-Ud-Din Aibak and completed by Iltutmish.
5. Jantar Mantar — Maharaja Sawai Jai Singh

D. **1.** Konark Sun Temple is located at Konark, Odisha. Architectural style — The temple is made up of black granite that is why called as 'Black Pagoda'. It is shaped like a big chariot. It has 24 wheels and is pulled by seven horses. The spokes on wheel act as sundial.

2. Mughal Emperor Shah Jahan built Taj Mahal in memory of his beloved wife Mumtaz Mahal.
Taj Mahal is the most famous monument of our country. It is also one of the wonders of the world. Taj Mahal represents an example of the fine craftsmanship of India and Indian architecture. This white marble building has beautifully carved floral designs. The main dome is surrounded by four minarets.

3. It is necessary to conserve our monuments so that they continue to serve as source of information of the past. These are the symbols of our rich culture and heritage. So, they need protection in all respect.

4. Red Fort was built by Mughal Emperor Shah Jahan. Due to its great significance, it was designated a UNESCO World Heritage Site in 2007.
This ancient red sand stone building has many Fortresses. It used to have famous Meena Bazar, a famous business centre. The Diwan-e-Aam and Diwan-e khaas were administrative blocks. Every year on 15th August (our Independance Day) our Tri-colour is hoisted at Red Fort by Prime Minister.

5. **(a) Ajanta and Ellora caves —** These are cave temples located near Aurangabad in Maharashtra. The caves at Ajanta have some of India's most magnificent paintings. At Ellora, there are rock cut temples. They have wonderful carvings made from a single rock. Kailashnath Temple happens to be the most magnificent amongs them.

(b) Jantar Mantar — The Jantar Mantar of Jaipur is an astronomical observation site built by Maharaja Sawai Jai Singh. It has a set of twenty main fixed instruments. They are designed for the observation of astrononical positions with naked eyes. It also has world's biggest stone sundial "Samrat Yantra".

(c) Qutub Minar — The Qutub Minar is the highest stone tower of India. This 72.5 metre tall structure made of red sandstone is Delhi's most prominent landmark. It has five storeys at present. Its wall bear inscriptions from the holy Quran.
There is an iron pillar in its premises that has remained rust free for the last 1500 years. Qutub Minar was built by Qutub-ud-Din Aibak.

E. 1. Konark 2. Madurai
3. Aurangabad 4. Odisha
5. Jantar 6. Agra
7. Monuments

F. Do yourself

Chapter [16]

Our Government

A. 1. Executive, Legislative, Judiciary
2. Rajya Sabha (Council of States), Lok Sabha (House of the people)
3. session
4. Three
5. President of India

B. 1. False 2. True 3. True
4. True 5. True

C. **1.** Legal body that governs the country and make rules for it, is called government.

2.
- Our country, India is a democratic and republic country. It has a government run by a body of ministers and representatives elected by the people through voting.
- Our country is run by government officials at two levels. These are the Central and the State government.

3. In our country the leaders (Members of Parliament and members of Legislative Assembly) are elected by the people over the age of 18 years by voting.

4. Gram Panchayat is a grassroot level, local self governance system in our country. It is at village level. The head of the Gram Panchayat is called a Sarpanch. Gram Panchayat is responsible for making arrangement of various basic facilities in the village, like- water, electricity, education, health care etc.
Many Gram Panchayats of nearby areas together constitute a panchayat Samiti.

5. The Municipal Corporation looks after many departments, such as— Education, Roads, market place, water supply, fire brigades, disposal of waste, street lighting, drainage, hospitals, records of birth and death.

D. Do yourself

E. Do yourself