

**Teachers' Manual 5**

# Blue Planet

**A Textbook of Environmental Education**



**BLUE SKY**  
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## BLUE PLANET-5

### 1. My Family

**A.** 1. c 2. a 3. c 4. b 5. b **B.** 1. Yes 2. Yes 3. No 4. Yes 5. No  
**C.** 1. Factors that influence our likes and dislikes are : A. Personal experience B. Environment C. Family background D. Cultural background. 2. Three natural calamities are drought, flood, earthquake. 3. The two places that faced natural calamities in the last two years are—Nepal (earthquake) and Pune (landslide) 4. Some positive effects of migration are: A. Increase in job and education opportunities. B. Cultural integration [mixing] with place. C. Co-operation among people. Negative impacts of migration are: A. Youngsters migrate and usually the elders are left at home alone. B. Migrants have to adjust to the local language, food, climate and other cultural changes. C. It affects their family lives. 5. People who are unable to use one or more of their senses are called differently-abled people. **E.** 1. Migration 2. Education 3. Marriage 4. Displacement **HOTS:** It is important to have a like about all types of food and eat well because different kinds of food have different nutrients and minerals in them to build our body. Exercise helps us to keep our body strong, fit and healthy.

### 2 Let's Play

**A.** 1. c 2. c 3. a 4. b 5. a **B.** 1. mind 2. games 3. chess and judo 4. six 5. Outdoor **C.** 1. We play games to relax our mind and for many other reasons; they are: A. It is a good exercise to keep our bones and muscles strong. B. We become fresh and active and able to do more work. C. We develop our confidence. D. We channelise our mental and physical energy in more positive manner. E. By following the rules and regulations of the game, we become more disciplined in life. 2. A game in which a player plays against another player is called an individual game; like chess, billiards, golf, etc. While a game in which a group of players called team plays against another group is called team game; like cricket, football, hockey, etc. 3. Team spirit is the feeling of harmony and unity among players. They share the common aim to compete and

win against their opponents. The following things should be remembered to maintain the team spirit: A. Play for the team and do the best to your capacity. B. Do not fight with other players even if they make a mistake. C. Be disciplined and do not cheat. D. Consider the opinion of each player. E. Be respectful and understanding. 4. Captain is the person who has the big responsibility of the team. He is the one who plans and discuss the strategy of the game with the team. It is also important for the team members to respect and trust their team leader. 5. Traditional games played in India are: A. Malkhambh B. Kho-Kho C. Kabbadi, D. Boat race, E. Martial Art, F. Archery, etc. **D.** 1. Boat race 2. Hockey 3. Jabarjang 4. Yoga 5. Kalaripayattu **HOTS:** In games we follow the rules and regulation of the game and share the common aim of the group. In this way games teach us the team work and co-ordination among the team members.

### 3. Dignity of Labour

**A.** 1. a 2. c 3. b 4. a 5. c **B.** 1. No 2. Yes 3. No 4. Yes 5. Yes **C.** 1. The services that we need every day are called essential services. 2. We cannot do all the work ourselves. So we depend on others for our essential services. 3. We should give respect or dignity to people who are providing different types of services to make our life comfortable. 4. Any job done to earn money is called an occupation. Some people work for free to serve the community. Such work is called social work. 5. Nepoleon Bonaparte was an emperor of France, who strongly believed in dignity of labour. **D.** 1. Running is an exercise. All others are jobs 2. Angel is a heavenly person. All others are professionals. 3. Social work is done free. In all others money is given or taken. **HOTS:** Do yourself

### 4. Animal's World

**A.** 1. c 2. c 3. c 4. b 5. a **B.** 1. herd 2. Chimpanzees 3. pinnae 4. holes or inner ears 5. shark **C.** 1. Some animals such as elephant and deer live and move around in groups. They are called social animals. 2. Animals live in groups for protection and to raise their

young ones. 3. A group of chimpanzees is called a band. Chimpanzees live in groups of 15 to 80. Each female and her young ones form a small group within the large group. These animals use facial expressions and gestures to communicate with one another. 4. Animals like elephants, dogs and cats have external ears, these ears are called pinnae. 5. Cattle egret sit on the back of cattle and get their food in the form of ticks and fleas from the body of cattle. This, in turn, cleans the cattle's body. **HOTS:** Zebra, elephant, deer, horse, donkey.

### 5. Animal's Senses

**A.** 1. c 2. b 3. a 4. a 5. c **B.** 1. Vultures 2. Ants 3. Cockroaches and spiders 4. earthworm 5. Bats **C.** 1. Snakes keep flicking their tongue in and out of their mouth. because their tongue picks up odour from the air or the taste of the object, it tucks and send the message to the sense organs in the roof of their mouth. 2. Some animals make high pitched sound using their mouth and nose. If these sound waves meet an object they create echoes that bounce back. This is called echo-location. Bats, whales and dolphins use it. 3. Some fish have eyes on either side of their heads, these help the fish to get a good view of their surroundings and locate their prey. 4. a. Ants, snakes, sharks b. Vultures, eagles and hawks 5. a. Dogs sleep with their eyes closed while cows sleep with their eyes open. b. Bats hang themselves upside down to sleep. c. Horses sleep while standing and dolphins sleep with one eye open. d. Migratory birds sleep while flying. e. Fishes sleep with their eyes open as they do not have eyelids. **D.** 1. Horse 2. Dolphin 3. Ant 4. Earthworm 5. Cow **E.** Do yourself **F.** 1. smell 2. smell 3. sight 4. sound 5. smell **HOTS:** By barking, howling and growling.

### 6. Super Seeds

**A.** 1. a 2. b 3. c 4. b 5. b **B.** 1. Yes 2. Yes 3. No 4. No 5. Yes **C.** 1. A seed is covered by a thin outer layer known as seed coat. It protects the seed. Inside the seed coat, seed leaves are present called cotyledons. Between the cotyledons is the baby plant, called the embryo. 2. Monocot have one cotyledon and dicot have

two cotyledons. 3. Germination is a process by which a seed produces a baby plant or seedling in the presence of water, air and sunlight. 4. The process by which seeds are scattered away from the mother plant is called seed dispersal. 5. Plants reproduce by stems, leaves and roots. **HOTS:** It will not germinate because to germinate seeds need sunlight, water and soil.

### 7. Forest People

**A.** 1. c 2. c 3. c 4. c 5. a **B.** 1. Forests provide large number of products like gum, spices, bamboo, honey, etc. 2. We get timber for making furniture. 3. We get many medicines from trees like neem, eucalyptus, etc. 4. Trees allow water to seep into the soil through their root system. **C.** 1. Forests are important natural resource. They provide shelter to a variety of animals and birds. They help purifying air. We need to protect forests because cutting down of trees bring climatic changes. Rainfall, temperature, wind velocity, etc. also lead to soil erosion. These changes lead to desertification of the area. 2. Tribal people depend on forests for food, medicines and building material. 3. In some parts of country, certain patch or part of the forest is dedicated to the "deity", a village God. This area is considered as sacred and is called sacred grove. Peepal and banyan trees are sacred trees of India. 4. Factors that cause deforestation are: poverty, create land for industries and housing for the over increasing human population, to create land for raising more crops, to create land for transport facilities. Poverty of the tribal is the reason that they cut down trees for selling. 5. Forest can be conserved by planting more and more trees, planned cultivation, preventing illegal cutting down of trees for timber, preventing overgrazing. **D.** 1. Tamil Nadu 2. Madhya Pradesh 3. Andhra Pradesh, Odisha 4. Manipur 5. Sikkim 6. West Bengal 7. Assam, Meghalaya **HOTS:** Roots of trees in forest bind the soil together which prevents soil erosion.

## 8. Taste and Digestion

**A.** 1. a 2. c 3. a 4. c 5. b **B.** 1. Yes 2. Yes 3. No 4. No 5. Yes **C.** 1. The process by which food is broken down into simpler form so that it can be easily absorbed by the body is called digestion. 2. Saliva makes the food soft and breaks down starch into sugar. 3. The stomach churns the food and mixes it with gastric juices which further breaks down the proteins in food. 4. The walls of the small intestine produce digestive juices which breaks down the food further. The bile and other digestive juices digest fats, proteins and carbohydrates present in the food. The wall of the intestine absorbs all the nutrients into the blood. Then blood carries them to all parts of body. 5. A balanced diet contains all the nutrients in right amounts. **HOTS:** To be very fatty.

## 9. Food Storage and Preservation

**A.** 1. a 2. b 3. b 4. b 5. a **B.** 1. anaemia 2. beri-beri 3. scurvy 4. loss of vision 5. rickets **C.** 1. When food is not preserved properly, it gets spoilt. Germs grow easily in such type of food. Germs cause decay of food and make it unfit for eating. The spoilt food has a bad taste and smell. By bad taste and smell we know that food has been spoilt. 2. Raw food gets spoilt sooner because cooking of food minimises bacterial growth through high heat and sometimes also through drying it out. 3. Drying method, because it reduces water content and bacteria do not grow without water. 4. 1. We should serve only that much of food in our plate as we can eat. 2. We should not leave uneaten food in our plate. 5. In canning, jars of food are completely covered with boiling water and heated for a specific amount of time. While in pickling, oil, vinegar and salt added to the cooked or raw fruits and vegetables to slow the growth of germs. **D.** 1. Vegetables, Fruits, 2. Meat, Vegetables 3. Jams, Murabbas 4. Sauces, Squashes 5. Butter, Cooked food **HOTS:** Because if our diet does not contain all kinds of nutrients, it may cause malnutrition and create serious problems or diseases.

## 10. Food for Plants and Animals

**A.** 1. c 2. a 3. c 4. a 5. b **B.** 1. d 2. e 3. a 4. b 5. c **C.** 1. The process of making food by plants using sunlight, water and carbon dioxide in the presence of chlorophyll is called photosynthesis. 2. Plants store their extra food in fruits, leaves, stem and roots in form of starch. 3. Plants that cannot make their own food are non-green plants, e.g., mushroom. They obtain their food from dead plants and animals. 4. Animals that depend on other living animals for their food are called parasites. Two examples of parasites are mosquitoes, fleas. 5. Plants, human beings and animals depend on each other for their survival. Human beings and animals need food to eat and oxygen to breathe. Both these things can be obtained by plants only. On the other hand, plants need carbon dioxide to prepare their food. This carbon dioxide is obtained by animals and human beings. **D.** 1. Yes 2. No 3. No 4. Yes 5. No **E.** Leaves, Root, Flower, Fruit, Stem, Seed **F.** 1. absorb 2. transfer 3. photosynthesis 4. stomata **HOTS:** Animals, because they move from one place to another and some animals also do work hard for us.

## 11. Aquatic Plants and Animals

**A.** 1. b 2. a 3. c 4. b 5. a **B.** 1. e 2. d 3. a 4. c 5. b **C.** 1. Aquatic plants are of three types: 1. Floating plants—water hyacinth, duckweed, 2. Fixed plants—lotus, water lily, 3. Underwater plants—hydrilla, tape grass. 2. These plants are spongy and filled with air. This makes the plant very light and helps them to float on water. 3. Underwater plants are completely submerged in water while fixed plants have roots fixed in the mud at the bottom. 4. Malaria is caused by protozoas. It is carried by the female Anopheles mosquito. The protozoa are sucked up with the blood. When this bites a healthy person, the protozoa are injected into healthy person and causes malaria. 5. By not letting the water collect in and around your house and by using mosquito net. **D.** 1. No 2. Yes 3. No 4. Yes 5. Yes **HOTS:** Because they help them to swim and

wade in water.

## 12. Disaster–Natural and Man–made

**A.** 1. a 2. b 3. b 4. a 5. c **B.** 1. Yes 2. No 3. Yes 4. No 5. Yes **C.** 1. An earthquake is a sudden movement or disturbance in the Earth's surface. 2. The corresponding point of earthquake is called epicenter. 3. Magma is the hot molten rocks deep inside the Earth and when this magma erupts through the Earth's surface it is called lava. 4. Tsunami is caused by undersea earthquakes, volcanic eruptions, etc. Cyclones are caused by tidal waves and strong winds. 5. The outbreak of diseases is called epidemic.

**HOTS:** Seismology.

## 13. Fuels

**A.** 1. c 2. c 3. c 4. c **B.** 1. Refinery 2. LPG 3. Ammonium 4. Petroleum **C.** 1. Fuel which is formed by the decomposition of remains of prehistoric animals and plants buried under the Earth millions of years ago is called fossil fuel. 2. Coal tar is used to make varnishes, pesticides and drugs. It is also used in anti dandruff shampoos 3. In older days, most part of oceans covered the Earth. The plants and animals which lived in seas had died. Their bodies sank in the bottom of the seas. They got covered with clay and sand. As millions of years passed, in the absence of air, these remains under high pressure and temperature converted into the petroleum. 4. Petroleum is an oily mixture of hydro carbons and is called crude oil. 5. Natural gas is very important fossil fuel. It is another fuel that occurs in the crude oil under the rocks of the Earth. Natural gas is used for the manufacturing of chemicals and fertilizers. **D.** 1. c 2. e 3. b 4. a 5. d **HOTS:** No, they cannot be made in the laboratory but some like natural gas can be made from decaying material.

## 14. Be Healthy, Live Longer

**A.** 1. a, 2. b, 3. c, 4. a, 5. b **B.** 1. Stethoscope, 2. microscope, 3. surgeons, 4. Penicillin, 5. boy **C.** 1. f, 2. c, 3. a, 4. e, 5. b, 6. d. **D.** 1. Once Dr. Rene saw two children playing on the roadside.



They were sitting on the ends of a long and hollow log of wood. They were whispering through the long and hollow log of wood. He could not understand what they were doing. This made him to thought about it. He rolled a newspaper like a long tube, and put it on his patient's chest. To his surprise, the heartbeat of the patient could be heard more clearly. A stethoscope of today is far more sensitive than a mere paper tube. 2. A microscope is an instrument which magnifies small objects and makes it possible for doctors and scientists to see through the minute germs that are not visible to our naked eyes. 3. A surgeon is a special doctor who performs a surgery. 4. Sterilisation is a procedure by which the disease causing germs are destroyed through boiling. 5. We should adopt the following precautions in our daily life to be healthy : i. We must take care of our personal cleanliness, and keep our surroundings clean. ii. We must eat fresh, clean and nutritious food, and drink clean water. iii. Regular physical exercise is important to build up the resistance against disease. **Hots :** Giving polio drops is the only way to ensure that all children up to five years of age are protected from **polio**.

### **Model Test Paper–1**

**A.** 1. c, 2. c, 3. b, 4. a, 5. a, **B.** 1. Herd, 2. Bats, 3. Outdoor, 4. Chimpanzees, 5. mind, **C.** 1. Factors that influence our likes and dislikes are: A. Personal experience B. Environment C. Family background D. Cultural background. 2. A game in which a player plays against another player is called an individual game; like chess, billiards, golf, etc. While a game in which a group of players called team plays against another group is called team game; like cricket, football, hockey, etc. 3. We should give respect or dignity to people who are providing different types of services to make our life comfortable. 4. a. ants, snakes, sharks b. vultures, eagles, hawks 5. Plants reproduced by stems, leaves and roots.

## Model Test Paper–2

**A.** 1. a, 2. c, 3. c, 4. b, 5. b, **B.** 1. absorb, 2. transfer, 3. photosynthesis, 4. stomata, **C.** 1. The process by which food is broken down into simpler form so that it can be easily absorbed by the body is called digestion. 2. Raw food gets spoilt sooner because cooking food minimize bacterial growth through high heat and sometimes also through drying it out. 3. Plants that cannot make their food own are non-green plants, e.g., mushroom. They obtain their food from dead plants and animals. 4. Tsunami is caused by undersea earthquakes, volcanic eruptions, etc. Cyclones are caused by tidal waves and strong winds. 5. Do yourself.