

CHRIST KING HR. SEC. SCHOOL, KOHIMA
CLASS 9
Environmental Education-First Term

CHAPTER-1 (ECOSYSTEM AND ITS TYPES)
TEXTBOOK EXERCISES (Page number: 14)

I. MULTIPLE CHOICE QUESTIONS (CHOOSE THE CORECT ANSWER):

1. (d) 2. (b) 3. (c) 4. (a). 5. (c)

II.VERY SHORT ANSWER QUESTIONS:

1. Name the three biotic components of an ecosystem.

Ans: Producers, consumers and decomposers

2. What are the two types of aquatic ecosystems?

Ans: Marine ecosystem and fresh water ecosystem

3. Define biosphere.

Ans: The part of the earth where living organisms exist is called biosphere.

4. Give three examples of artificial or man-managed ecosystems.

Ans: Cropland, Park and kitchen garden

5. What is an estuary?

Ans: An estuary is formed where freshwater from the river and salt water from the sea merge.

Topic related questions:

1. What is ecology?

Ans: Ecology is the study of living things in their environment.

2. What are benthos?

Ans: Benthos are creeping or crawling organisms.

3. What are the biotic components of a grassland ecosystem?

Ans: (a) Producers: Grasses, Herbs

(b) Consumers: (i) Primary consumers: Sheep

(ii) Secondary consumers: Foxes

(iii) Tertiary consumers: Hawks

(c) Decomposers: Bacteria

4. Make a list of services and values that we derive from an ecosystem.

Ans: The services that we derive from an ecosystem are:

Water and air cleansing, Detoxification of harmful compounds and habitat for animals and plants.

The values that we derive from an ecosystem are:

Recreational happiness, Serenity and spiritual renewal

5. Give two characteristic features of desert ecosystem.

Ans: Two characteristic features of desert ecosystem are:

(i) Flora and fauna is poorly represented because of low water presence, intense light and extreme high temperature.

(ii) About 17% of the land is occupied by deserts.

6. Differentiate between marine ecosystem and fresh water ecosystem.

Ans: Marine ecosystems have more than 3.5% salt content. These are represented by seas and oceans.

Fresh water ecosystems contain less than 0.5% percent salt in water. Ponds and lakes are examples of fresh water ecosystems.

7. Write any three features of open sea ecosystem.

Ans: Three features of open sea ecosystem are:

- (i) These ecosystem is comprised of the area beyond the continental shelf.
- (ii) Diatoms, brown and red algae found in the lighted area are the producers.
- (iii) Bacteria and fungi perform the role of decomposer.

CHAPTER- 2 (INTERACTION BETWEEN BIOTIC AND ABIOTIC COMPONENTS)

TEXTBOOK EXERCISES (Page number: 21)

I. MULTIPLE CHOICE QUESTIONS:

1. (c) 2. (d) 3. (c) 4. (a) 5. (c)

II. VERY SHORT ANSWER QUESTIONS:

1. What is the name given to factors related to the soil of an ecosystem?

Ans: Edaphic factors.

2. What are biotic components of an ecosystem? Give examples.

Ans: Living organisms like plants, animals, bacteria and fungi are called biotic components.

3. What are abiotic components of an ecosystem? Give examples

Ans: Non-living organisms like organic and inorganic compounds, soil, water and temperature are called are abiotic components.

4. Classify the following as herbivore and carnivore: Sheep, Lion

Ans: Sheep- Herbivore

Lion – carnivore

5. Classify the following as omnivore and decomposer: Cockroach, Fungi

Ans: Cockroach - Omnivore

Fungi – Decomposer

Topic related questions:

1. Write briefly the role of decomposers in an ecosystem.

Ans: Decomposers feed on the dead bodies of autotrophs and heterotrophs i.e. plants and animals. They decompose the organic compounds present in the dead remains into simpler substances which are returned to the soil. They play a vital role in maintaining the soil fertility.

2. What are omnivores?

Ans: Organisms which feed on both plants as well as animals are called omnivores. Eg, Humans.

3. Differentiate between Herbivores and Carnivores.

Ans: Animals which satisfy their food needs from plants are called herbivores.

Eg, Deer, Goat

Animals which feed on herbivores are called carnivores.

Eg, Lion, Tiger

4. Name three biotic components of an ecosystem.

Ans: Autotrophs, Heterotrophs and Saprotrophs (Decomposers)

CHAPTER- 3 (ENERGY FLOW AND NUTRIENT CYCLE)
TEXTBOOK EXERCISES (Page number: 33- 34)

I. MULTIPLE CHOICE QUESTIONS:

1. (a) 2. (d) 3. (a) 4. (c). 5. (b)

II. VERY SHORT ANSWER QUESTIONS:

1. Give one point of difference between nutrient cycle and energy flow.

Ans: Energy flow in an ecosystem involves living components only whereas both living and non-living organisms are involved in nutrient cycle.

2. Give an example of three step food chain in grassland.

Ans: Grass → Sheep → Lion

3. Write the components of a food chain in correct order.

Ans: Producer → Herbivore → Carnivore → Decomposer

4. How do herbivores use the energy obtained from plants?

Ans: Herbivores use a portion of the energy obtained from plants in building tissues and respiration. Rest of it is released to the surroundings as heat.

5. Name the decomposers of dead remains of plants and animals.

Ans: Bacteria, Fungi

Topic related questions:

1. State 'Ten percent law'.

Ans: During transfer of energy from one trophic level to the next level, only about 10% energy is available to the higher trophic level and remaining 90% is lost in respiration and heat. This is called ten percent law.

2. What is energy flow?

Ans: Flow of energy that occurs along a food chain is called energy flow.

3. Give three importance of energy flow.

Ans: Three importance of energy flow are:

(i) Energy is essential for binding molecules and shaping bodies of both the biotic and abiotic components of environment.

(ii) The flow or transformation of energy through different trophic levels of an ecosystem is necessary because sun is the only source of energy in the biosphere.

(iii) No organism can survive without energy. Hence energy flow is most essential.

4. Write three nature's mechanism in maintaining balance of an ecosystem.

Ans: Three nature's mechanism in maintaining balance of an ecosystem are: (i) Nature keeps an ecosystem stable by the unidirectional flow of energy and cycling of nutrients.

(ii) Decomposers decay the bodies of plants and animals to return the locked energy from their bodies to be circulated in the biosphere.

(iii) In an ecosystem, there are more producers than consumers.

CHAPTER- 4 (DESTRUCTION OF ECOSYSTEM AND ITS IMPACT)
TEXTBOOK EXERCISES (Page number: 50)

I. MULTIPLE CHOICE QUESTIONS:

1. (d) 2. (a) 3. (b) 4. (d). 5. (c)

II. VERY SHORT ANSWER QUESTIONS:

1. Name three factors that degrade an ecosystem.

Ans: Population growth, mining activity, agriculture

2. What was the approximate population of the world in the year 1800?

Ans: About one billion.

3. What happens when the land becomes scarce?

Ans: Wars between communities and countries take place.

4. Give two effects of excessive mining.

Ans: Two effects of excessive mining are:

(i) Topography of the area is reshaped.

(ii) Huge debris is obtained after excavation.

5. Name two main sources of air pollution.

Ans: Automobiles, Industrial units

Topic related questions:

1. Mention any six different forms of destruction of an ecosystem.

Ans: Six different forms of destruction of an ecosystem are:

(i) Destruction of habitats

(ii) Loss of flora and fauna

(iii) Serious pollution of air, water and soil, contamination of ground water.

(iv) Scarcity of open land, green belts and destruction of forest.

(v) Extinction of species, plants and animals.

(vi) Conversion of forest lands into cultivable lands and cultivable lands into human settlement.

2. Write any six factors responsible for degradation of an ecosystem.

Ans: six factors responsible for degradation of an ecosystem are:

(i) Population growth

(ii) Deforestation and overgrazing

(iii) Construction of dams

(iv) Mining activity

(v) Building of roads, transport and township

(vi) Tourism, recreation, adventure and pilgrimage.

3. Give three adverse effects of mining.

Ans: Three adverse effects of mining are:

(i) The topography of the area is reshaped.

(ii) Huge debris is obtained after the excavation.

(iii) Surface and groundwater circulation is disrupted.

4. Write any three harmful effects of Jhum cultivation.

Ans: Three harmful effects of Jhum cultivation are:

(i) It is very harmful for wild animals. It destroys their habitats and creates a fear of fire in them.

(ii) It is through this type of cultivation that numerous species of insects are burnt alive.

(iii) It creates a lot of air pollution.

5. Write three harmful effects of increasing facilities for tourism, adventure, recreation and pilgrimage.

Ans: Three harmful effects of increasing facilities for tourism, adventure, recreation and pilgrimage are:

(i) Animals living in National parks and wildlife sanctuaries do not feel comfortable to see many persons flocking there. They become furious sometimes and attack the tourists.

(ii) Pilgrim places like Gangotri, Yamunotri and Amarnath temple in Kashmir are found littered with polythene bags left by the tourists.

(iii) Trekking and adventure tourism activities are becoming more and more popular amongst youngsters these days. Trekkers who pass the night at these places leave a lot of refuse.

6. Give any three major factors for causing deaths of numerous hornbills.

Ans: Three major factors for causing deaths of numerous hornbills are:

- (i) Deforestation
- (ii) Jhum cultivation
- (iii) Poaching for food

CHAPTER- 5 (CONSERVATION OF ECOSYSTEM) TEXTBOOK EXERCISES (Page number: 62)

I. MULTIPLE CHOICE QUESTIONS:

1. (c) 2. (b) 3. (a) 4. (b). 5. (c)

II. VERY SHORT ANSWER QUESTIONS:

1. List four points of concern in causing destruction of ecosystem.

Ans: Population growth, alteration of habitat, mining activity, agriculture

2. How did China control the population of their country?

Ans: By following one family-one child rule.

3. Give two measures to check excessive use of fossil fuels?

Ans: (a) Cover small distances on foot.

(b) Use public transport system for long distances.

4. Name the device of irrigation in which a smaller quantity of water is used.

Ans: Drip irrigation

5. How can we prevent the loss of animal life?

Ans: By growing more and more forest and animal parks.

Topic related questions:

1. Mention six important indigenous practices of conservation.

Ans: Six important indigenous practices of conservation are:

- (i) Construction of ponds.
- (ii) Construction of check dams.
- (iii) Construction of watersheds.
- (iv) Indigenous agricultural practices.
- (v) Social forestry and agro-forestry.
- (vi) Conservation through tradition and culture.

2. Give three functions of check dams.

Ans: Three functions of check dams are:

- (i) They act as reservoirs of water for irrigation and other purposes.
- (ii) They check rain water from running away down to big rivers.
- (iii) They help in the operation of local food-chains and water cycle.

3. Differentiate between social forestry and agro-forestry.

Ans: Planting trees in the village common lands for the purpose of fuel and fodder is called social forestry.

Agro –forestry is the agricultural practice of growing commercially useful plants on the demarcation lines of fields.

4. List down any five indigenous agricultural practices.

Ans: Five indigenous agricultural practices are;

- (i) Use of natural manure and green manure.
- (ii) Use of biological agents for pest control.
- (iii) Keeping blank periods between crops.
- (iv) Crop rotation and mixed cropping.
- (v) Growing crops on small farms.

CHAPTER- 6 (ROLE OF ENVIRONMENTAL IMPACT ASSESSMENT)
TEXTBOOK EXERCISES (Page number: 69)

I. MULTIPLE CHOICE QUESTIONS:

1. (d) 2. (c) 3. (d) 4. (a).

II. VERY SHORT ANSWER QUESTIONS:

1. What is the full form of GDP?

Ans: Gross domestic product

2. Why is it necessary to assess the development projects critically?

Ans: It has been observed in some cases that long term effects of industrial projects are negative and lead to destruction of ecosystem.

3. Name the three steps that are involved in the conduct of environmental impact assessment.

Ans: (a) Initial scrutiny

(b) Rapid environmental impact assessment

(c) Comprehensive impact assessment

4. What is the full form of EIS?

Ans: Environmental impact statement.

5. Name two items on which environmental impact statements provide data.

Ans: (a) Effect on plants, animals and fish

(b) Threat of any earthquakes

Topic related questions:

1. What is environmental impact assessment?

Ans: Environmental impact assessment (EIA) is the assessment of the impact of the developmental or other projects on the environment.

2. Who is responsible for carrying out the environmental impact assessment in India? State one sector in which it is carried out.

Ans: Ministry of Environment and Forest, Government of India is responsible to carry out the environmental impact assessment.

Thermal and gas power projects.

3. Discuss the objectives of environmental impact assessment.

Ans: Two objectives of environmental impact assessment are:

(a) While accepting the technical feasibility and economic viability, we have to see whether the development expected is sustainable for a fairly long period without adverse effects on the environment.

(b) Industrial development of the nation is crucial to provide employment to its citizens. It also raises the GDP of the nation and per capita income which are indicators of the richness of a nation. But it has been observed that long term effects of industrial projects are negative and it leads to destruction of the ecosystem. That is why, it is necessary to assess the projects critically for their possible ill impacts on the environment before finally deciding on them.