SCIENCE

Lesson 24: Environmental Degradation and its conservation

Answer the following questions:

1. **Define environmental degradation.**

Answer: The process of decrease in quality of environmental components due to human activities is known as environmental degradation.

2. **What are the causes of environmental degradation?**

Answer: The causes of environmental degradation are as follows:

a) Deforestation is one of the major causes of environmental degradation.
b) Unplanned urbanization leads to pollution of air, water resources, land, etc. that causes environmental degradation.
c) Unplanned Industrialization degrades of the quality of air, water and land that leads to environmental degradation.
d) Overpopulation leads to exploitation of environmental components that cause environmental degradation.

3. **What are the impacts of human activities on natural resources?**

Answer: The impacts of human activities on natural resources are as follows:

a) The quality of air gets degraded due to human activities like deforestation, urbanization and industrialization.
b) Due to over population, water is being overused and the quality of water resources is decreasing.
c) Unplanned settlement has destroyed cultivable land. Use of chemical fertilizers, insecticides and pesticides has decreased the fertility of soil.
d) Exploitation and overuse of fossil fuels has caused their scarcity that pose a challenge for the survival of human beings.

4. **Define natural disasters with examples.**

Answer: Those natural calamities which destroy lives of properties of people are known as natural disasters. For examples: Earthquake, Volcanic eruption, etc.

5. **What are the effects of earthquakes? How can we minimize the effects of earthquakes?**

Answer: Following are the effects of earthquake:

a) It causes flood.
b) It destroys lives and properties of people.
c) It destroys development structures.
d) It may cause glacial lake-out-burst floods (GLOF).

We can minimize the effects of earthquake by following ways:

a) We should make earthquake-resistant houses and buildings.
b) Old houses shot be retrofitted for protection from earthquake.
c) If we are inside houses during earthquake, we should protect ourselves by hiding our body at safe places like under heavy furniture, below the frames of doors, etc.
d) If we are in a vehicle, the vehicle should be stopped at a safe place.

6. What is volcano? What are the useful and harmful effects of volcano?

Answer: A volcano is a natural disaster in which lava and other substances are forced out through the weak spot of Earth's crust.

The useful effects of volcano are as follows:

a) They give the knowledge about the interior of the Earth.
b) Volcanic ashes may make the land fertile.
c) Some important minerals come out from the interior of the Earth during volcanic eruption.
d) It forms landscapes like mountains, plains and plateaus.

The harmful effects of volcano are as follows:

a) It causes earthquake.
b) It destroys human settlements.
c) It destroys life and property.
d) It pollutes air and water.

7. What are 3Rs principle of environmental sanitation?

Answer: The 3Rs principle of environmental sanitation are Reduce, Reuse and Recycle.

8. What are the local efforts of environmental conservation?

Answer: The local efforts of environmental conservation are as follows:

a) Awareness programmes are conducted at local level by different NGOs and INGOs working in the field of conservation of the environment.
b) Developmental structures and environmental conservation programmes are tried to develop bilaterally.
c) Afforestation is done on naked hills and barren lands.
d) Conservation of cultural heritages is done by local bodies.

9. How does educational institutions support conservation of natural resources?

Answer: Educational institutions support conservation of natural resources by educating people about importance of natural resources, environmental conservation and effects of environmental degradation. Educational institutions include the topics related to natural resources and environment balance in the curriculum of school education to create awareness among children.

Lesson 25: Environment and Sustainable Development

1. What is sustainable development?

Answer: The development which is long-lasting and does not have any effects on the environmental components is known as sustainable development.

2. What are the importance of sustainable development?

Answer: The importance of sustainable development are as follows:

a) It is necessary for the availability of natural resources to all.
b) It helps to balance the environment.
c) It minimizes the degradation of air, water and land.
d) It improves health and living standard of human beings.
e) It preserves natural as well as cultural resources for the future.
f) It minimizes the exploitation of natural resources.

3. What is nature friendly development?

Answer: The development activities which have the least negative effects on the environment are called nature friendly development.

4. What are the efforts made to ensure sustainable development in Nepal?

Answer: Following are the efforts made to ensure sustainable development in Nepal.

a) For sustainable development, forest is conserved by local consumer groups and the products of forest are consumed without causing harmful effects to the environment.
b) Water resources are conserved by constructing river embankments to control floods. Also, irrigation system is developed to use water for a long time.
c) Land is conserved by using organic fertilizers instead of chemical fertilizers, Similarly, soil erosion is controlled by planting trees on naked hills and barren lands.
d) The sewage and solid waste is managed by following 3Rs principles. The sewage water is treated chemically to make them less harmful before disposing them into rivers.

5. What are the things that should be considered to make the developmental activities eco-friendly?

Answer: We must consider following things to make the developmental activities eco-friendly:

a) While stablishing factories, they should be managed in a such a way that as far as possible there is less air pollution.
b) The water resources should be conserved by not mixing industrial wastes directly in water bodies. The polluted water must be changed into less harmful before disposing them in water resources like rivers.

c) The developmental activities must not reduce the fertility of land. While constructing roads, dams, buildings, etc., they must not affect the cultivable land.
d) Adequate consideration should be taken to cause least harm to forest and wildlife while constructing development structures.

HYGIENE

Lesson 23: Environment and its balance

Answer the following questions:

1. Define water resources. What are the importance of water resources?

Answer: Those natural resources from where we can get water for different purposes are known as water resources. For examples: river, lakes, pond, rain water, etc.

The importance of water resources are as follows:

a) It is used for drinking and other domestic purposes.
b) It is used for irrigation in cultivation.
c) It is used for producing hydroelectricity.
d) It is used to farm and catch fish.
e) It is used for entertainment as well as adventure by boating and rafting.

2. What are wetlands and watersheds?

Answer: The regions which are always wet with water and contain water up to the depth of 6 meter are called wetlands.

The areas from where the water runs in different directions to different rivers are called watersheds.

3. Write down the importance of water resources, wetlands and watersheds.

Answer: The importance of water resources, wetlands and watersheds are as follows:

a) By the conservation and proper management of watersheds, the living standards of local people can be increased.
b) By the proper management of water resources, the agricultural conditions can be improved.
c) They provide continuous source of water.
d) They improve the economic condition of a nation by promoting tourism.

4. What are the measures to conserve wetlands and watersheds?

Answer: Following are the measures to conserve wetlands and watersheds:

a) Afforestation is the best measure for conserving wetlands and watersheds.
b) Construction of check dams reduces the speed of running water which helps to conserve wetlands and watersheds.
c) Public awareness is also effective method to conserve watersheds and wetlands.

d) By minimizing the pollution of water caused by industries, cities, agricultural activities, etc. also help to conserve watersheds and wetlands.

5. Define biotic and abiotic components of environment with examples.

Answer: The living components of the environment are known as biotic components. Producers, consumers and decomposers are biotic components of environment.

The non-living components of the environment are known as abiotic components. Air, water, soil, etc. are abiotic components of environment.

6. Define producers, consumers and decomposers with examples.

Answer: Those biotic components of environment which can prepare food by themselves by the process of photosynthesis are known as biotic components. For examples: green plants, green algae.

Those organisms which depend on other plants and animals for their food are called consumers. For examples: rabbit, wolf, tiger, etc.

Those organisms which decay dead bodies of plants and animals are known as decomposers. For examples: bacteria, fungi, etc.

7. What are the roles of human beings to balance the environment?

Answer: The roles of human beings to balance the environment are as follows:

a) Human beings can balance the environment by controlling over population.
b) We can balance the environment by controlling deforestation and planting new plants in barren lands and naked hills.
c) Proper management of garbage and sewage also helps to maintain the balance the environment.
d) The industries or factories must be established away from human settlement to maintain environmental balance.