

NCERT QUESTIONS WITH SOLUTIONS

1. Which of the following groups contain only biodegradable items?

- (a) Grass, flowers and leather
- (b) Grass, wood and plastic
- (c) Fruit-peels, cake and lime-juice
- (d) Cake, wood and grass

Ans. (a), (c), (d)

2. Which of the following constitute a food-chain?

- (a) Grass, wheat and mango
- (b) Grass, goat and human
- (c) Goat, cow and elephant
- (d) Grass, fish and goat

Ans. (b) Grass, goat and human

3. Which of the following are environment friendly practices?

- (a) Carrying cloth-bags to put purchases in while shopping
- (b) Switching off unnecessary lights and fans
- (c) Walking to school instead of getting your mother to drop you on her scooter
- (d) All of the above

Ans. (d) All of the above

4. What will happen if we kill all the organisms in one trophic level?

Ans. If we kill all the organisms in one trophic level, then transfer of energy as well as matter to next higher level will stop. It will lead to over population at lower trophic level causing competition amongst the individuals. This would seriously disturb the food chain and can cause even a collapse of an ecosystem.

5. Will the impact of removing all the organisms in a trophic level be different for different trophic levels? Can the organisms of any trophic level be removed without causing any damage to the ecosystem?

Ans. Yes, the impact of removing all the organisms in a trophic level will be different for different trophic levels.

Consider the following food chain –

Plants → Deer → Lion.

If all the lions are removed, then the population of deer will increase to a larger extent and this may result in the following problems

- (i) Due to over-grazing caused by deer soil erosion can take place and forest area will get affected.
- (ii) Due to large deer population competition for food will start.

Similarly, if deer are removed then carnivores will get affected. Whereas removal of producers (plants) will affect both deer and lions.

This all suggests that all different organisms in a food chain are linked together and removal of any organism will have different effect but it will cause an ill effect on the stability of that ecosystem.

6. What is biological magnification? Will the levels of this magnification be different at different levels of the ecosystem?

Ans. The accumulation of harmful chemicals in the body of living organisms at different trophic levels in a food chain is called biological magnification. Yes, the concentration of these harmful chemicals will be different at different trophic levels. It will be maximum at the last trophic levels which is mostly of the top carnivores (quaternary consumers).

7. What are the problems caused by the non-biodegradable wastes that we generate?

(i) Non-biodegradable waste persists in the environment for a long time and cause greater harm to the various members of the ecosystem by causing biological magnification.

(ii) Non-biodegradable waste such as fertilizers, pesticides, weedicides, etc., changes the soil chemistry. This in turn affects the fertility of soil and subsequently reduces the crop yield.

8. If all the waste we generate is biodegradable, will this have no impact on the environment?

Ans. Biodegradable waste will be recycled easily by the decomposers such as bacteria and fungi. It will have only this bad impact on our environment that, many of the gases released during decomposition process may result in global warming.

9. Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage?

Ans. The ozone shields the surface of the earth from ultraviolet (UV) radiation from the sun. These radiations are highly damaging as they can cause cancer, damage to eyes and immune system in human beings. They also have harmful effects on animals and plants.

Due to these reasons, damage to the ozone layer is a major cause for concern. Steps which are taken to limit this damage:

(i) To decrease the use of synthetic chemicals like chlorofluorocarbons (CFCs) which are used as refrigerants and in fire extinguishers.

(ii) In 1987, the United Nations Environment Programme (UNEP) succeeded in reaching an agreement to freeze CFC production at 1986 levels.