



Work sheet- Our Environment-1

a. Fill in the blanks:

1. Chlorofluorocarbon depletes _____.
2. Substances which cannot be decomposed by the action of micro-organisms are called as _____ wastes.
3. Smallest man-made ecosystem is _____.
4. The producers occupy the _____ trophic level in the food chain.
5. The flow of energy in an ecosystem is always _____.

Ib. Multiple choice questions:

6. Only _____ % of energy is transferred from sun to the producers.
a) 1% b) 10% c) 100% d) 1000%
7. The accumulation of non-biodegradable pesticides in different trophic levels:
a) Biological degradation b) Biological magnification
c) Biological decomposition d) Biological concentration
8. Which of the following is the best way for disposal of vegetable and fruit peels?
a) Landfill b) Recycling c) Composting d) Burning
9. Organisms which synthesise carbohydrates from inorganic compounds using radiant energy is called
a) decomposers b) producers c) herbivores d) carnivores
10. In a food chain the third trophic level is occupied by:
a) Carnivores b) Autotrophs c) Herbivores d) Producers

ASSERTION AND REASONING:

For the questions 11 to 13, two statements are given—one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the options (i), (ii), (iii) and (iv) as given below:

- (i) Both A and R are true and R is the correct explanation of the assertion.
(ii) Both A and R are true but R is not the correct explanation of the assertion. (iii) A is true but R is false.
(iv) A is false but R is true.

11. **Assertion: Green plants of the ecosystem are the producers.**

Reason: Producers trap the radiant energy of the sun and change it into chemical energy to make glucose.

12. **Assertion:** The flow of energy in an ecosystem is unidirectional
Reason: Energy captured by the autotrophs does not get revert back to the solar input and it passes to the herbivores.
13. **Assertion:** Animals adopt different strategies to survive in hostile environment.
Reason: The chameleon changes its skin colour to camouflage and merge with its surroundings.
14. **Assertion:** Aquariums are manmade ecosystems.
Reason: Aquariums are made and maintained by humans.
15. **Assertion: The concentration of nonbiodegradable pesticides is in humans. Reason:**
Humans are at the apex of the food chain.

16. **PASSAGE BASED QUESTIONS:**

The effects of biomagnification in top predators, and the following decrease in abundance, came into light during the 1960s, and in the 1970s the white-tailed sea eagle (*Haliaetus albicilla*), otter (*Lutra lutra*), and seals, for example, the gray seal (*Halichoerus grypus*) gave the consequences of toxic pollution a face in the Baltic Sea. To the most important direct causes were effects of DDT on the ability to secrete calcium in the females, which made the egg thin-shelled with risk to break during the incubation (Bernes, 2005). Pollutants from pulp bleaching caused skeletal deformities and disturbances of metabolism, growth, and development of sexual organs in fishes exposed to wastewater of pulp mill industries (Bernes, 2005). DDT was banned in the western European countries in the mid-1970s (Figure 8), but in the old eastern European nations DDT was still in use around the year 2000. Therefore, the concentration of herring has decreased more in the Gulf of Bothnia, Kattegat, and Skagerrak compared to the southern Baltic Sea.

(I). What is Biomagnification?

- (a) Biomagnification takes place as chemicals transfer from lower trophic levels to higher trophic (b) excessive richness of nutrients in a lake or other body of water, frequently due to run-off from the land, which causes a dense growth of plant life.
(c) Biomagnification takes place as chemicals transfer from higher trophic levels to lower trophic (d) Biomagnification takes place as chemicals transfer from food chain to the next.

(II). Why has the concentration of herring decreased more in the Gulf of Bothnia, Kattegat, and Skagerrak compared to the southern Baltic Sea?

- a) In the old eastern European nations around Gulf of Bothnia, Kattegat, and Skagerrak DDT was still in use
b) In the old eastern European nations around Gulf of Bothnia, Kattegat, and Skagerrak DDT was banned
c) DDT was not banned in the western European countries near southern Baltic Sea.
d) DDT has nothing to do with the population herrings.

(III). What were effects of DDT on white-tailed sea eagle?

- a) It effects the ability to secrete calcium in the females, which made the egg thick-shelled.
b) It effects the ability to secrete calcium in the females, which made the egg thin-shelled.
c) It caused skeletal deformities and disturbances of metabolism, growth, and development of sexual organs.
d) The DDT has no effect on the white-tailed sea eagle.

(IV). What is the effect of Pollutants on fishes from pulp bleaching in the pulp mill industries?

- a) The ability to secrete calcium in the females, which made the egg thick-shelled.
- b) The ability to secrete calcium in the females, which made the egg thin-shelled.
- c) Caused skeletal deformities and disturbances of metabolism, growth, and development of sexual organs.
- d) Fishes are not affected by the pollutants from pulp bleaching.

(V). The effects of biomagnification in top predators, and the following decrease in abundance, first came into light during –

- a) In the 1970s
- b) In the 2000
- c) In the 2005
- d) In the 1960s

