

# Our Environment

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## Assertion & Reason Type Questions

**Directions:** Each of the following questions consists of two statements, one is Assertion (A) and the other is Reason (R). Give answer:

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- b. Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
- c. Assertion (A) is true but Reason (R) is false.
- d. Assertion (A) is false but Reason (R) is true.

**Q1. Assertion (A):** Aquariums are known as the man-made ecosystems.

**Reason (R):** Aquariums are created and maintained by humans.

**Answer :** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**Q2. Assertion (A):** The energy flow through different steps in the food chain is unidirectional.

**Reason (R):** The energy which is captured by autotrophs does not revert back to the solar input and passes to the herbivores.

**Answer :** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**Q3. Assertion (A):** Biological magnification is the process in which harmful chemicals enter a food chain and get accumulated progressively at each trophic level.

**Reason (R):** Biological magnification affects organisms belonging to different trophic levels particularly the tertiary consumers.

**Answer :** (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

**Q4. Assertion (A):** Ozone layer is getting depleted at the higher levels of the atmosphere.

**Reason (R):** Chlorofluorocarbons affect the ozone layer which are used as refrigerants and in fire extinguishers.

**Answer :** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**Q5. Assertion (A):** Biodegradable substances result in the formation of compost and natural replenishment.

**Reason (R):** It is due to breakdown of complex inorganic substances into simple organic substances. (CBSE SQP 2023-24)

**Answer :** (c) Assertion (A) is true but Reason (R) is false.

**Q6. Assertion (A) :** In an ecosystem, the function of producers is to convert organic compounds into inorganic compounds.

**Reason (R) :** Green plants, the producers, transduce solar energy.

**Answer :** (a)

**Q7. Assertion (A) :** Ecology is study of relationship between living organisms and their environment.

**Reason (R) :** The biotic community and non-living environment of an area function together to form an ecosystem.

**Answer :** (a)

**Q8. Assertion (A) :** Animals adopt different strategies to survive in hostile environment.

**Reason (R) :** Praying mantis is green in colour which merges with plant foliage.

**Answer :** (a) Animals blend with the surroundings or background to remain unnoticed for protection and aggression.

**Q9. Assertion (A) :** Abiotic component of an ecosystem involves cycling of material and flow of energy.

**Reason (R) :** This is essential to keep biotic factors alive.

**Answer :** (a)

**Q10. Assertion (A) :** The crown fires are most destructive as they burn the tree top.

**Reason (R) :** Due to crown fire, the temperature of that area may rise upto 700°C.

**Answer :** (a)

**Q11. Assertion (A) :** Trophic levels are formed by only plants.

**Reason (R) :** Food chains and webs are formed due to linked organisms on the basis of their nutrition.

**Answer :** (d)

**Q12. Assertion (A) :** A network of food chains existing together in an ecosystem is known as food web.

**Reason (R) :** An animal like kite cannot be a part of a food web.

**Answer :** (c) In the food web, different food chains are interconnected.

Each chain consists of different trophic levels i.e., producers, consumers and detritivores. So, kite can also be a part of food web.

**Q13. Assertion (A) :** Supersonic jets cause pollution as they thin out ozone.

**Reason (R) :** Depletion of ozone cause green house effect.

**Answer :** (a)

**Q14. Assertion (A) :** Tropical rain forests are disappearing fast from developing countries such as India.

**Reason (R) :** No value is attached to these forests because these are poor in biodiversity.

**Answer :** (c) Tropical rain forests have disappeared mainly due to man's activities.

Due to over population in countries like India, rain forests are cut to make place available for man to live and build houses. To build buildings and factories man has incessantly cut down trees. This has caused the depletion of rain forests.