Animal Kingdom

Assertion Reason Questions

Given below are two statements labelled as Assertion (A) and Reason (R). Select the most appropriate answer from the options given below:

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

1. Assertion (A): Platyhelminthes generally hermaphrodites. are
Reason (R): In platyhelminthes, fertilisation is internal.

Ans. (b) Both A and R are true and R is not the correct explanation of A.
Explanation: Platyhelminthes are hermaph- rodites i.e., sexes are not separate and both sexes are present in one organism. They show internal and cross fertilisation where male gametes of one organism fertilise female gametes of another organism, but it is not the correct explanation of the assertion.

2. Assertion (A): Obelia shows metagenesis.
Reason (R): Polyps produce medusa asexually and medusa form the polyp sexually.

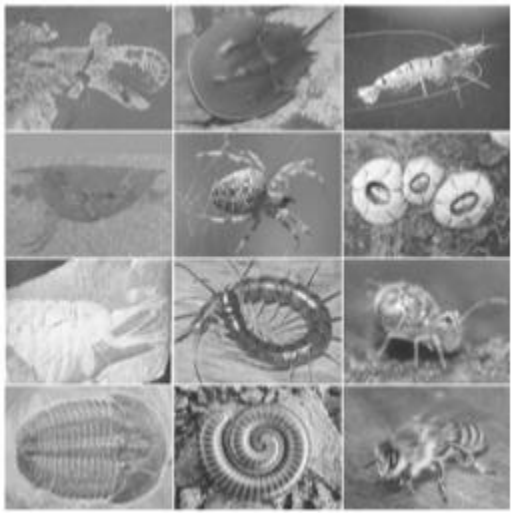
Ans. (a) Both A and R are true and R is the correct explanation of A.
Explanation: Cnidarians which exist in both forms (polyps and medusa) exhibit alternation of generation, which is called metagenesis. It means polyps produce medusa asexually and medusa forms the polyp sexually.

3. Assertion (A): Echinodermata show metagenesis.
Reason (R): Adult echinoderms show radial symmetry but larvae show bilateral symmetry.

Ans. (d) A is false but R is true.
Explanation: Metagenesis is present in Phylum Coelenterata (Cnidaria) and not in Echinodermata.

4. Arthropods play extremely important roles in maintaining the ecosystem and can also be beneficial for humans. For example, many insects pollinate plants, produce useful

substances, act as pest control, and serve as food for other animals and also for humans. Others, such as mites, isopods, myriapods, and insects, are scavengers or decomposers, breaking down dead plants and animals and converting them into soil nutrients.



Assertion (A): Arthropoda is the largest phylum of the Kingdom Animalia.
Reason (R): Most of the species on earth are arthropods i.e., nearly two-thirds of all the named species.

Ans. (a) Both A and R are true and R is the correct explanation of A.
Explanation: Arthropoda is the largest phylum of the Kingdom Animalia which includes insects. Over two-thirds of all named species on earth are arthropods.

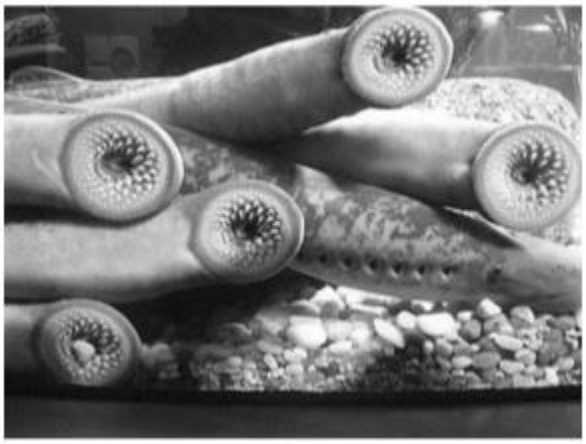
5. Assertion (A): Notochord is an ectoder- mally-derived solid rod-like structure.
Reason (R): Notochord is absent in all non-chordates.

Ans. (d) A is false but R is true.
Explanation: Notochord is a mesodermally derived rod-like structure. It is flexible in nature. In non-chordates, notochord is not formed.

6. Assertion (A): Bats and Whales are mammals.
Reason (R): They are viviparous.

Ans. (a) Both A and R are true and R is the correct explanation of A.
Explanation: Mammals are viviparous, i.e. they give birth to their young ones and provide nourishment during development inside the parent body with the help of placenta. Examples: Whales and bats.

7. Sea lampreys are anadromous; from their lake or sea habitats, they migrate up rivers to spawn. Females deposit a large number of eggs in nests made by males in the substrate of streams with moderately strong current. Spawning is followed by the death of the adults. Larvae burrow in the sand and silt bottom in quiet water downstream from spawning areas and filter-feed on plankton and detritus.



Assertion (A): Petromyzon - the lamprey is an ectoparasite.
Reason (R): Lamprey attaches to a fish and makes punctures in its body.

Ans. (a) Both A and R are true and R is the correct explanation of A.
Explanation: Lamprey is an ectoparasite, i.e. they are found attached on the surface of fish. They feed on the larger fish by suctorial mouth and make punctures in the body with the teeth and sucks blood and flesh.

8. Assertion (A): Chondrichthyes fishes stay at a particular depth in water without swimming.
Reason (R): They do not have a swim bladder which acts as a buoyancy regulator.

Ans. (d) A is false but R is true.
Explanation: Chondrichthyes fishes swim constantly in water as they lack a swim bladder which regulates buoyancy.