

Structural Organisation in Animals

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
- (b) Both A and R are true but 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): Frogs are dioecious.

Reason (R): Thus, they are referred as hermaphrodites.

Ans. (c) A is true but R is false.

Explanation: Frogs are not considered as hermaphrodites (bisexual) because they have well-developed male and female reproductive organs in separate individuals (dioecious). They show sexual dimorphism.

2. Frogs play a central role in many ecosystems. They control the insect population, and they're a food source for many larger animals. To keep things in balance, frogs use lots of survival tools. Some run away, play dead or swell up when threatened. Others have more sophisticated defences. Many use colour as a warning or as camouflage. For example, the four-eyed frog, *Physalaemus nattereri*, has two spots that look like eyes near its back legs. It shows these spots to predators, making it look like a more threatening animal.



Assertion (A): Frogs maintain ecological balance.

Reason (R): They are an important part of the food chain.

Ans. (a) Both A and R are true and R is the correct explanation of A.

Explanation: Frogs help to maintain ecological balance by forming an important part of the food chain. Throughout their life cycle, they act as both predators and prey. As tadpoles, they eat algae, helping regulate blooms and reducing the chances of algal contamination. Once full-grown, they feed on lots of insects, which help to control bug populations.

3. Assertion (A): Frogs are important for mankind.

Reason (R): Frogs eat insects and protect the crop.

Ans. (a) Both A and R are true and R is the correct explanation of A.

Explanation: Frogs are advantageous to humans because they consume insects and protect crops. Frogs help to preserve ecological balance by acting as a vital link in the ecosystem's food chain and food web. Man consumes the muscular legs of frogs in several regions.

4. Assertion (A): There is a hepatic portal system in frogs.

Reason (R): It is a venous connection between the liver and intestine.

Ans. (a) Both A and R are true and R is the correct explanation of A.

Explanation: The venous system in frogs has a hepatic portal system. The alimentary canal and its accompanying glands send blood to the liver via this route. It is made up of a big hepatic portal vein that receives tributaries from a variety of organs.