Biological Classification

Assertion Reason Questions

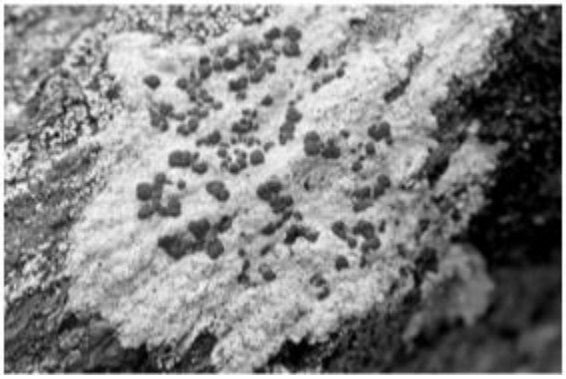
Given below are two statements labelled as Assertion (A) and Reason (R). Select the most appropriate answer from the options given below:

(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): Penicillium is used to make antibiotics.
Reason (R): It is a protist.

Ans. (c) A is true but R is false.
Explanation: Penicillium belongs to Kingdom Fungi, it is used as a source of antibiotics because it stops bacteria from developing the walls that enclose them, preventing them from growing.

2. Like small signposts, these curious organisms can tell us a lot about the air we are breathing.
Why not just look at an air quality index? While an index is helpful in some cases, lichens are able to tell us the effects of air pollution on ecosystems, not just of the number of pollution particles in the air. This is handy if you want to know how air pollution is changing ecological communities and what that means for the people who live in and rely on them. If you don't yet know what lichens look like, once you start searching you might see them growing everywhere, even in the unlikeliest of places.



Assertion (A): Lichen is a symbiont.
Reason (R): It is a mutual association of algae and fungi.

Ans. (a) Both A and R are true and R is the correct explanation of A.
Explanation: A symbiont is an organism that lives in a symbiotic relationship. Symbiosis refers to long-term relationships between organisms of different species in which both symbionts benefit from each other. For example, Lichens. Caution It is important to note that if Lichens do not grow in an area; pollution is indicated. Lichens are pollution indicators that identify the presence of pollution. Therefore it is said that Lichens do not grow in polluted areas.

3. Assertion (A): Cuscuta is a parasitic plant.
Reason (R): It feeds on insects.

Ans. (c) A is true but R is false.
Explanation: A parasite is a creature that lives on or in the body of its host and feeds on or at the cost of that host. For example, Cuscuta derives valuable nutrients from the host plant and deprives them, it is a leafless plant with yellow stem, chlorophyll is absent i.e., does not synthesise its own food.

4. Assertion (A): Fungi reproduces sexually by oospores.
Reason (R): Spores are produced in distinct structures calle fruiting bodies.

Ans. (b) Both A and R are true and R is not the correct explanation of A.
Explanation: The majority of fungus reproduce by producing spores that can withstand harsh circumstances like cold and lack of water. Depending on the species and circumstances, both sexual meiotic and asexual mitotic spores can be formed. Oospore is a thick-walled sexual spore. Fruiting bodies are structures that carry spores.

5. Assertion (A): The mushrooms considered as plants. are
Reason (R): Mushrooms are heterotrophs.

Ans. (d) A is false but R is true.
Explanation: Mushrooms are heterotrophs which cannot make their own food due to lack of chlorophyll, and they feed on organic matter. They are not regarded as plants and are included in fungi. They are saprotrophic in nature.

6. Assertion (A): Amoeba, Euglena and protozoans all belong to Kingdom Protista.
Reason (R): Protista includes all unicellu- lar eukaryotic organisms.

Ans. (a) Both A and R are true and R is the correct explanation of A.
Explanation: The main feature possessed by all the Protists:
(1) They are unicellular and eukaryotic.
(2) They have diverse types of nutrition which either derive their nourishment from surrounding or prepare their own food.