

Corrigendum/Explanation SFG 2025 Level 1 Test 19

There are no changes to the solutions/answers. Explanations have been provided for the students who have raised doubts.

Q.10) There was a doubt raised with respect to Statement III of the question that they (lichens) receive all nutrients from the atmosphere.

Explanation-Statement III is correct. The statement mentions a significant aspect of the lichens that the lichens receive all their nutrients from the atmosphere which is correct in its general sense. The lichens might absorb nutrients from the surfaces where they grow in some trace amounts but this is not the general characteristics of the lichens.

Lichens can absorb water vapor and various pollutants including fluoride, ozone, NO₂, PAN and herbicides from the atmosphere. They are particularly sensitive to sulfur dioxide and radioactive elements strontium and caesium. Because of this sensitivity, detailed examination of lichens in an area can determine the degree of atmospheric pollution including radioactive fall-out during nuclear tests.

Source: <https://egyankosh.ac.in/bitstream/123456789/16691/1/Unit-12.pdf>

[https://www.nps.gov/articles/lichens-as-](https://www.nps.gov/articles/lichens-as-bioindicators.htm#:~:text=Lichens%20as%20Bio%2DIndicators,increase%20the%20load%20of%20nutrients)

[bioindicators.htm#:~:text=Lichens%20as%20Bio%2DIndicators,increase%20the%20load%20of%20nutrients](https://www.nps.gov/articles/lichens-as-bioindicators.htm#:~:text=Lichens%20as%20Bio%2DIndicators,increase%20the%20load%20of%20nutrients)

Q.38) There was a doubt raised with respect to Statement 1 of the question that UV-B Radiation can cause damage to DNA, leading to mutations in living organisms.

Explanation- Statement 1 is correct. UV rays are highly injurious to living organisms since DNA and proteins of living organisms preferentially absorb UV rays, and its high energy breaks the chemical bonds within these molecules. Also, UV-B damages DNA and mutation may occur. It causes aging of skin, damage to skin cells and various types of skin cancers.

An article published in The Hindu mentions that the researchers have found that instead of the DNA, the acute effects of sunburn were actually caused mainly due to damage to the RNA. The objective of the study was to describe the impact of UV radiation on the skin and what causes these damages. But this study nowhere denies that UV-B Radiation can cause damage to DNA, leading to mutations in living organisms. Also study mainly focuses on the sunburn caused by UV-B.

Source: <https://ncert.nic.in/textbook/pdf/lebo116.pdf>

<https://www.thehindu.com/sci-tech/rna-not-dna-is-the-main-cause-of-acute-sunburn/article69109404.ece>