CREST Olympiads

#CRESTInnovator

CREST Science Olympiad (CSO)
Worksheet for
Class 8

Topic

Conservation of Plants and Animals

@crestolympiads info@crestolympiads.com +91-98182-94134

Worksheet on Conservation of Plants and Animals

1. **Choose the correct option and fill in the blanks:**

   The process of afforestation involves planting trees in areas where there were no forests before. This helps in increasing the amount of ___P___ in the atmosphere, which is vital for supporting life on Earth. On the other hand, deforestation leads to the release of ___Q___ into the atmosphere, contributing to global warming. The increased amount of ____Q_____ in the atmosphere causes an effect known as ____R_____.

   a. P: oxygen, Q: carbon dioxide, R: biodiversity loss
   b. P: carbon dioxide, Q: oxygen, R: greenhouse effect
   c. P: nitrogen, Q: oxygen, R: desertification
   d. P: oxygen, Q: carbon dioxide, R: soil erosion.

2. **In an ecosystem, if the population of a predator species declines, what might be the impact on the prey species?**

   a. The prey population will decrease
   b. The prey population will increase
   c. The prey population will remain unchanged
   d. The prey population will become extinct

3. **Consider the following statements and choose the correct option:**

   Statement 1: Endemic species are those that are found exclusively in a particular geographical area.
   Statement 2: Endangered species are those that are found in abundant numbers across various ecosystems.
   Select the correct option:

   a. Statement 1 is correct but statement 2 is incorrect.
   b. Statement 1 is incorrect but statement 2 is correct.
   c. Both statements are correct.
   d. Both statements are incorrect.

4. **Which of the following are the consequences of deforestation?**

   I. Decrease in rainfall
   II. Increase in groundwater level
   III. Imbalance of atmospheric gases

   a. Only I
   b. Only III
   c. I and II
   d. I and III

5. **In the following question, you will find an assertion and a reason. Select the appropriate option that applies.**

   Assertion: Biodiversity is essential for the stability and sustainability of ecosystems.
   Reason: Biodiversity ensures that different species in an ecosystem can adapt and survive in changing environmental conditions.

   a. Both assertion and reason are true, and the reason is the correct explanation of the assertion.
   b. Both assertion and reason are true, but the reason is not the correct explanation of the assertion.
   c. The assertion is true, but the reason is false.
   d. The assertion is false, but the reason is true.

Answer Key

1. b - P: carbon dioxide, Q: oxygen, R: greenhouse effect.
   Afforestation increases the amount of carbon dioxide (CO_2) absorbed by trees, reducing its presence. Deforestation releases stored oxygen (O_2) and increases CO_2 levels, leading to the greenhouse effect, and causing global warming.

2. b - The prey population will increase
   When the population of a predator species declines, there are fewer predators hunting the prey species. This leads to a decrease in predation pressure on the prey. As a result, the prey species' population tends to increase. With fewer predators, the prey species will face less threat and have a better chance of survival and reproduction, which leads to an increase in their population.

3. a - Statement 1 accurately defines endemic species as those restricted to a specific geographical area. However, statement 2 is incorrect because endangered species are characterised by their limited and decreasing numbers, often at risk of extinction, rather than being abundant across ecosystems.

4. d - I and III
   The consequences of deforestation include:
   I. Decrease in rainfall: Trees play a crucial role in the water cycle. They absorb water from the soil and release it into the atmosphere through a process called transpiration. This moisture eventually condenses to form clouds and rain. Deforestation disrupts this process, leading to reduced rainfall in the affected areas.
   III. Imbalance of atmospheric gases: Trees act as carbon sinks, absorbing carbon dioxide from the atmosphere during photosynthesis. When trees are cut down or burned, the stored carbon is released back into the atmosphere as carbon dioxide. This can contribute to an increase in the concentration of greenhouse gases, leading to climate change and an imbalance in atmospheric gases.

5. a - Both assertion and reason are true, and the reason is the correct explanation of the assertion.
   Biodiversity indeed plays a crucial role in maintaining the stability and sustainability of ecosystems. The reason provided is also valid because having a variety of species within an ecosystem ensures that there is a higher likelihood that some species will be able to adapt and survive in changing environmental conditions. This ensures the overall resilience and functioning of the ecosystem.

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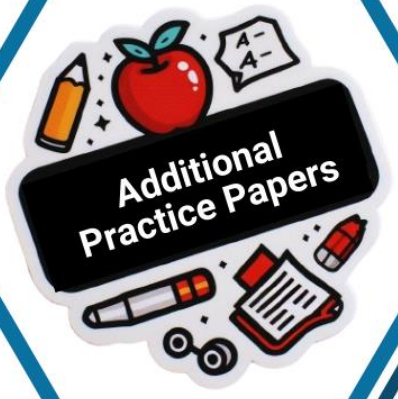

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