Environmental Chemistry

Date Planned : __ / __ / __	Daily Tutorial Sheet	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-0	Exact Duration :_____

1. Green house effect leads to global warming. Which substances are responsible for green house effect ?

2. Acid rain is known to contain some acids. Name these acids and where from they come in rain?

3. Ozone is a toxic gas and is a strong oxidising agent even then its presence in the stratosphere is very important. Explain what would happen if ozone from this region is completely removed?

4. Dissolved oxygen in water is very important for aquatic life. What processes are responsible for the reduction of dissolved oxygen in water?

5. On the basis of chemical reactions involved, explain how do chlorofluorocarbons cause thinning of ozone layer in stratosphere.

6. What could be the harmful effects of improper management of industrial and domestic solid waste in a city ?

7. During an educational trip, a student of botany saw a beautiful lake in a village. She collected many plants from that area. She noticed that villagers were washing clothes around the lake and at some places waste material from houses was destroying its beauty. After few years, she visited the same lake again. She was surprised to find that the lake was covered with algae, stinking smell was coming out and its water had become unusable.Can you explain the reason for this condition of the lake ?

8. What are biodegradable and non-biodegradable pollutants ?

9. What are the sources of dissolved oxygen in water ?

10. What is the importance of measuring BOD of a water body ?

11. Why does water covered with excessive algal growth become polluted ?

12. A factory was started near a village. Suddenly villagers started feeling the presence of irritating vapours in the village and cases of headache, chest pain, cough, dryness of throat and breathing problems increased. Villagers blamed the emissions from the chimney of the factory for such problems. Explain what could have happened. Give chemical reactions for the support of your explanation.

13. Oxidation of sulphur dioxide into sulphur trioxide in the absence of a catalyst is a slow process but this oxidation occurs easily in the atmosphere. Explain how does this happen. Give chemical reactions for the conversion of SO_2 into SO_3.

14. From where does ozone come in the photochemical smog?

15. How is ozone produced in stratosphere?

16. Ozone is a gas heavier than air. Why does ozone layer not settle down near the earth?

17. Some time ago formation of polar stratospheric clouds was reported over Antarctica. Why were these formed? What happens when such clouds break up by warmth of sunlight ?

18. A person was using water supplied by Municipality. Due to shortage of water he started using underground water. He felt laxative effect. What could be the cause ?

19. How can you apply green chemistry for the following :

(i) to control photochemical smog

(ii) to avoid use of halogenated solvents in drycleaning and that of chlorine in bleaching

(iii) to reduce use of synthetic detergents

(iv) to reduce the consumption of petrol and diesel

20. Green plants use carbon dioxide for photosynthesis and return oxygen to the atmosphere, even then carbon dioxide is considered to be responsible for green house effect. Explain why ?

21. Explain how does green house effect cause global warming.

22. A farmer was using pesticides on his farm. He used the produce of his farm as food for rearing fishes. He was told that fishes were not fit for human consumption because large amount of pesticides had accumulated in the tissues of fishes. Explain how did this happen ?

23. For dry cleaning, in the place of tetrachloroethane, liquefied carbon dioxide with suitable detergent is an alternative solvent. What type of harm to the environment will be prevented by stopping use of tetrachloroethane? Will use of liquefied carbon dioxide with detergent be completely safe from the point of view of pollution? Explain