ENVIRONMENTAL CHEMISTRY

1. Water samples with BOD values of 4 ppm and 18 ppm, respectively, are :
(1) Highly polluted and Clean
(2) Highly polluted and Highly polluted
(3) Clean and Highly polluted
(4) Clean and Clean

2. The upper stratosphere consisting of the ozone layer protects us from the sun's radiation that falls in the wavelength region of :
(1) 600-750 nm (2) 0.8-1.5 nm
(3) 400-550 nm (4) 200-315 nm

3. The compound that is NOT a common component of photochemical smog is :
(1) O_3 (2) CH_2=CHCHO
(3) CF_2Cl_2 (4) $H_3C-\overset{\overset{O}{\|}}{C}-OONO_2$

4. Taj Mahal is being slowly disfigured and discoloured. This is primarily due to :-
(1) Water pollution (2) Global warming
(3) Soil pollution (4) Acid rain

5. The higher concentration of which gas in air can cause stiffness of flower buds ?
(1) SO_2 (2) NO_2
(3) CO_2 (4) CO

6. Peoxyacetyl nitrate (PAN), an eye irritant is produced by :
(1) Acid rain
(2) Photochemical smog
(3) Classical smog
(4) Organic waste

7. The correct set of species responsible for the photochemical smog is :
(1) NO, NO_2, O_3 and hydrocarbons
(2) N_2,O_2, O_3 and hydrocarbons
(3) N_2, NO_2 and hydrocarbons
(4) CO_2, NO_2, SO_2 and hydrocarbons

8. Air pollution that occurs in sunlight is :
(1) oxidising smog (2) acid rain
(3) reducing smog (4) fog

9. **Assertion :** Ozone is destroyed by CFCs in the upper stratosphere
Reason : Ozone holes increase the amount of UV radiation reaching the earth.
(1) Assertion and reason are correct, but the reason is not the explanation for the assertion
(2) Assertion is false, but the reason is correct
(3) Assertion and reason are incorrect, Assertion and reason are both correct
(4) And the reason is the correct explanation for the assertion

10. Which is wrong with respect to our responsibility as a human being to protect our environment ?
(1) Avoiding the use of floodlighted facilities
(2) Restricting the use of vehicles
(3) Using plastic bags
(4) Setting up compost tin in gardens

11. Excessive release of CO_2 into the atomosphere results in :
(1) polar vortex
(2) depletion of ozone
(3) formation of smog
(4) global warming

12. The layer of atmosphere between 10 km to 50 km above the sea level is called as :
(1) troposphere (2) mesosphere
(3) stratosphere (4) thermosphere

13. The regions of the atmosphere, where clouds form and where we live respectively, are :-
(1) Stratosphere and Troposphere
(2) Troposphere and Stratosphere
(3) Troposphere and Troposphere
(4) Stratosphere and Stratosphere

14. The primary pollutant that leads to photochemical smog is :
(1) sulphur dioxide (2) acrolein
(3) ozone (4) nitrogen oxides

SOLUTION

1. Ans. (3)

Clean water would have BOD value of less than 5 ppm whereas highly polluted water could have a BOD value of 17 ppm or more.

2. Ans. (4)

Ozone protects most of the medium freequnecies ultravoilet light from 200 - 315 nm wave length.

3. Ans. (3)

Freons (CFC's) are not common components of photo chemical smog.

4. Ans. (4)

Taj mahal is slowely disfigured and discoloured due to acid rain.

5. Ans. (1)

Due to acid rain in plants high concentration of SO_2 makes the flower buds stiff and makes them fall.

6. Ans. (2)

Photochemical smog produce chemicals such as formaldehyde, acrolein and peroxyacetyl nitrate (PAN).

7. Ans.(1)

The common component of photochemical smog are ozone,nitric oxide, acrolein, formaldehyde and peroxyacetyl nitrate (PAN).

8. Ans.(1)

Photochemical smog occurs in warm (sunlight) and has high concentration of oxidising agent therefore it is called photochemical smog/ oxidising smog.

9. Ans.(1)

The upper stratosphere consists of ozone (O_3), which protect us from harmful ultraviolet (UV) radiations coming from sun.

Correct option : (1)

10. Ans.(3)

Correct option : (3)

11. Ans.(4)

Excessive release of CO_2 into the atmosphere results in **global warming**.

12. Ans.(3)

It's a fact, the layer of atmosphere between 10km to 50km above sea level is called as stratosphere.

13. Ans.(3)

Troposphere is the lowest region of atmosphere bounded by Earth beneath and the stratosphere above where most of the clouds form and where life form exists.

14. Ans.(4)

Nitrogen oxides and hydrocarbons (unburnt fuel) are primary pollutant that leads to photochemical smog.