

Chapter - 18

Pollution of Air and Water

Multiple Choice Questions

1. Air is a mixture of various gases. One of the gases is 21% part of the air and is essential for the survival of human beings. This gas is

- (a) nitrogen
- (b) oxygen
- (c) ozone
- (d) argon

Soln:

Answer is (b) oxygen

Explanation:

Nitrogen-78.09%

Ozone-0.000004%

Argon- 0.93%

2. Which of the following is not a source of air pollution?

- (a) automobile exhaust
- (b) burning of firewood
- (c) windmill
- (d) power plant

Soln:

Answer is (c) windmill

Explanation:

Windmill will not release any sort of gas into atmosphere hence it is not considered as a source of air pollution.

3. Boojho wishes to contribute in reducing air pollution. Which vehicle should he use for going to school?

- (a) car
- (b) school bus
- (c) autorickshaw
- (d) scooter

Soln:

Answer is (b) school bus

Explanation:

School bus carry many students hence reducing the emission. This will reduce the air pollution.

4. Which of the following is not a way to conserve water?

- (a) replace
- (b) reduce
- (c) reuse
- (d) recycle

Soln:

Answer is (a) replace

Explanation:

Reduce, reuse and recycle is the formula to conserve natural resource. Replace is not the way to conserve water.

5. The type of pollution which is likely to affect Taj Mahal in Agra to a greater extent is

- (a) air pollution
- (b) water pollution
- (c) soil pollution
- (d) noise pollution

Soln:

Answer is (a) air pollution

Explanation:

Air pollution caused by residues of nearby factory is causing damage to Tajmahal by converting white marble to yellow.

6. Incomplete combustion of fuel such as petrol and diesel gives

- (a) nitrogen oxide
- (b) sulphur dioxide
- (c) carbon monoxide
- (d) carbon dioxide

Soln:

Answer is (c) carbon monoxide

7. The phenomenon of marble cancer is due to

- (a) soot particles
- (b) CFCs
- (c) fog
- (d) acid rain

Soln:

Answer is (d) acid rain

Explanation:

Marble cancer is the phenomenon of corrosion of buildings and monuments due to effect of acid rain.

8. Potable water is the water which is

- (a) obtained from a river.**
- (b) obtained from a lake.**
- (c) pure and fit for drinking.**
- (d) used only for washing clothes.**

Soln:

Answer is (c) pure and fit for drinking.

9. Which of the following procedures will give you water free from all impurities?

- (a) adding chlorine tablets**
- (b) distillation**
- (c) boiling**
- (d) filtration**

Soln:

Answer is (b) distillation

10. A pond contains clean water. Which of the following activities will produce least pollution of water?

- (a) washing clothes in the pond**
- (b) animals bathing in the pond**
- (c) washing motor vehicles in the pond**
- (d) swimming in the pond.**

Soln:

Answer is (d) swimming in the pond.

11. Trees help in reducing the pollution of our environment. Lakhs of trees are planted by people in the month of July every year. The occasion is called

- (a) forest Conservation Day**
- (b) plantation month**
- (c) Van Mahotsav**
- (d) wildlife week**

Soln:

Answer is (c) Van Mahotsav

12. Which of the following is not a green house gas?

- (a) nitrogen gas
- (b) water vapour
- (c) methane gas
- (d) carbon dioxide

Soln:

Answer is (a) nitrogen gas

Explanation:

A gas that contributes to the greenhouse effect by absorbing infrared radiation is known as greenhouse gas. Nitrogen is a part of atmospheric gases and it will not contribute to greenhouse effect.

Very Short Answer Questions

13. Name the chemicals which are used in refrigerators and air conditioners and damage ozone layer when released in air.

Soln:

Chlorofluorocarbons.

14. Name any two sources which cause air pollution due to suspended particulate matter.

Soln:

- (i) Combustion of fuel
- (ii) Industrial activities

15. Name two gases which are mainly responsible for acid rain?

Soln:

- (i) sulphur dioxide
- (ii) nitrogen dioxide

16. The quality of air at various locations is monitored regularly by government and other agencies? In what way can you use these data?

Soln:

These data can be used to generate awareness about air pollution among people.

17. Combustion of fossil fuels generates a lot of air pollution. Can you suggest any two alternative sources of energy which do not cause any pollution?

Soln:

Solar energy and wind energy.

18. Name any two water pollutants which are toxic for plants and animals.

Soln:

Lead and Arsenic

Short Answer Questions

19. A lot of dry leaves are collected in a school garden and are burnt every day. Do you think that it is right to do so? If not, what should be done to dispose off the dry leaves?

Soln:

Burning dry leaves is not a right thing to do as it causes air pollution. Converting dry leaves is the right thing to do as it does not cause any pollution and also gives manure.

20. The level of air pollution is higher at a busy traffic intersection. Why?

Explanation:

At traffic intersection automobiles stop for a while which lead to accumulation of harmful gases at the junction. Hence level of air pollution is higher at a busy traffic intersection.

21. Fill in the blanks with the help of words given in bracket after each sentence.

(a) When air is contaminated by _____ substances which have a _____ effect on both the _____ and _____, it is referred to as _____. (air pollution, harmful, living, unwanted, non-living, pollutants).

(b) Many _____ are responsible for causing _____ pollution. Petroleum _____ are a major source of _____ pollutants like _____ and _____. (sulphur dioxide, refineries, industries, nitrogen dioxide, gaseous, liquid, people, air).

(c) While _____ your teeth, leaving the _____ running may waste several _____ of water. (tap, litres, brushing, washing, drops)

(d) Water which is suitable for _____ is called _____ water. (washing, bathing, drinking, potable, soft).

(e) Water which looks clean still has disease carrying _____ and _____ impurities. (insects, microorganism, particles, dissolved, harmful).

Soln:

- (a) When air is contaminated by **unwanted** substances which have a **harmful** effect on both the **living** and **non-living**, it is referred to as **air pollution**. (air pollution, harmful, living, unwanted, non-living, pollutants).
- (b) Many **industries** are responsible for causing **air** pollution. Petroleum **refineries** are a major source of **gaseous** pollutants like **sulphur-di-oxide** and **nitrogen dioxide**. (sulphur dioxide, refineries, industries, nitrogen dioxide, gaseous, liquid, people, air).
- (c) While **brushing** your teeth, leaving the **tap** running may waste several **litres** of water. (tap, litres, brushing, washing, drops)
- (d) Water which is suitable for **drinking**, is called **potable** water. (washing, bathing, drinking, potable, soft).
- (e) Water which looks clean still has disease carrying **microorganisms** and **dissolved** impurities. (insects, microorganism, particles, dissolved, harmful).

22. Match the items of Column A with those of Column B.

Column A	Column B
(a) sulphur dioxide	(i) damage ozone layer
(b) carbon dioxide	(ii) reduces oxygen carrying capacity of blood
(c) carbon monoxide	(iii) acid rain.
(d) chlorofluorocarbons	(iv) green house gas

Soln:

Column A	Column B
(a) sulphur dioxide	(iii) acid rain.
(b) carbon dioxide	(iv) green house gas
(c) carbon monoxide	(ii) reduces oxygen carrying capacity of blood
(d) chlorofluorocarbons	(i) damage ozone layer

23. Find out the wrong statements and write them in their correct form.

- (a) We can survive for some time without air but we cannot survive even for a few minutes without food.
- (b) A brick kiln emits lot of smoke and other harmful gases causing air pollution.
- (c) Carbon monoxide is produced by complete burning of fuels such as coal, petrol, diesel.
- (d) Chlorination is a commonly used chemical method for killing germs in water.
- (e) Water which is suitable for drinking is called soft water

Soln:

- a) Statement a) is wrong- We can survive for some time without food but we cannot survive even for a few minutes without air is the write statement.
- b) Statement b) is true.
- c) Satetmt c is wrong - Carbon monoxide is produced by incomplete burning of fuels such as coal, petrol, diesel is the right statement.
- d) Statement d) is true
- e) statement e) is a wrong statement- Water which is suitable for drinking is called potable water is the right statement.

24. In the following statements, the underlined words are jumbled up. Write them in their correct form.

(a) Air contains 78% ginroten and 21% gonexy.

(b) Vehicles produce high level of pollutants like carbon dioxide, nitrogen oxides, nobrac moondexi and mosek.

(c) Carbon dioxide, thaneme, nitrous oxide and water vapour are known as heengrouse sesga.

(d) Gangotri glacier in Himalaya has started melting because of lablog ringwam.

(e) Whenever harmful substances such as wageese, toxic chemicals, silt, etc. get mixed with water, the water becomes potdulle.

Soln:

(a) Air contains 78% Nitrogen and 21% Oxygen.

(b) Vehicles produce high level of pollutants like carbon dioxide, nitrogen oxides, Carbon-monoxide and smoke.

(c) Carbon dioxide, methane, nitrous oxide and water vapour are known as greenhouse gases.

(d) Gangotri glacier in Himalaya has started melting because of global warming.

(e) Whenever harmful substances such as sewage, toxic chemicals, silt, etc. get mixed with water, the water becomes polluted.

Long Answer Questions

25. What do CFCs stand for? Name some devices where CFCs are used. Why CFCs are considered as pollutants?

Soln:

CFCs stand for chlorofluorocarbons. CFC'S are used in devices like refrigerators, air conditioners etc. CFC's are considered as pollutants because they deplete the ozone layers present in the atmosphere. This results in entry of harmful radiations from sun.

26. Why is it advised that industries should switch over to cleaner fuels such as CNG and LPG in the Taj Mahal Zone in Agra?

Soln:

Industries should switch over to cleaner fuels such as CNG and LPG in the Taj Mahal Zone in Agra because by using fossil fuels they release sulphur-di-oxide gas into atmosphere. This mixes with rain water to get converted to sulphuric acid causing acid rain. Acid rains affect white marble of tajmahal and convert them to yellow color.

27. It is said, "CO₂ contributes to global warming." Explain.

Soln:

CO₂ is continuously being released because of human activities. On the other hand, area under forests is decreasing. Plants utilise CO₂ from the atmosphere for photosynthesis, thereby decreasing the amount of CO₂ in the air. Deforestation leads to an increase in the amount of CO₂ in the air because the number of trees which consume CO₂ is reduced. Human activities, thus, contribute to the accumulation of CO₂ in the atmosphere. CO₂ traps heat and does not allow it to escape into space. As a result, the average temperature of the earth's atmosphere is gradually increasing which results in global warming.

28. We should plant trees and nurture the ones already present in the neighbourhood. Why?

Soln:

We should plant trees and nurture the ones already present in the neighbourhood because plants consume CO₂ to reduce the CO₂ content in the atmosphere. This will stop the global warming and its consequences.

29. Explain the traditional way of purifying water to make it fit for drinking.

Soln

Filtration:

This is a physical method of removing impurities. A popular household filter is a candle type filter.

Boiling:

Many households use boiling as a method for obtaining safe drinking water.

Chlorination:

Chlorination is a commonly used chemical method for purifying water. It is done by adding chlorine tablets or bleaching powder to the water.

30. How can we reduce, reuse and recycle water?

Soln:

Reduce:

While brushing your teeth, leaving the tap running may waste several litres of water. A tap that drips once every second wastes a few thousand litres of water every year.

Reuse

Water used for washing vegetables may be used to water plants in the garden.

Recycle:

Dirty water can be recycled after purification.

31. Read the paragraph and answer the questions following it.

Water is essential for life. Without water there would be no life. We usually take water as granted for its purity, but we must ensure the quality of water. Pollution of water originates from human activities. Through different paths, pollution reaches to ground water. Easily identified source or place of pollution is called as point source, e.g.– municipal and industrial discharge pipes, where pollutants enter the water source. Non–point sources of pollution are those where a source of pollution can not be easily identified, e.g.– agricultural run off, acid rain etc.

- (i) How do you classify the various sources of water pollution?
- (ii) What are the point sources of water pollution?
- (iii) Name any two non-point sources of water pollution?

Soln:

(i)
 Point source: Easily identified source or place of pollution.
 Non–point sources: Sources of pollution are those where a source of pollution can not be easily identified.

(ii) Easily identified source or place of pollution is called point sources of water pollution Ex: municipal and industrial discharge pipes, where pollutants enter the water source.

32. Complete the crossword puzzle with the help of clues given below:

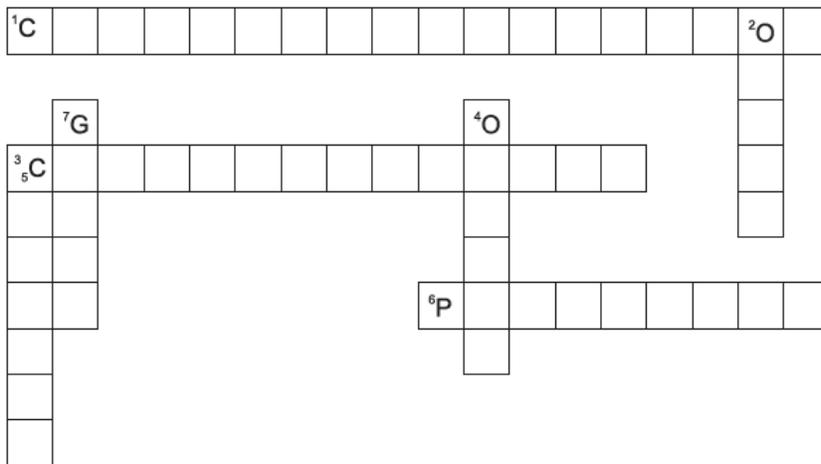


Fig. 18.1

