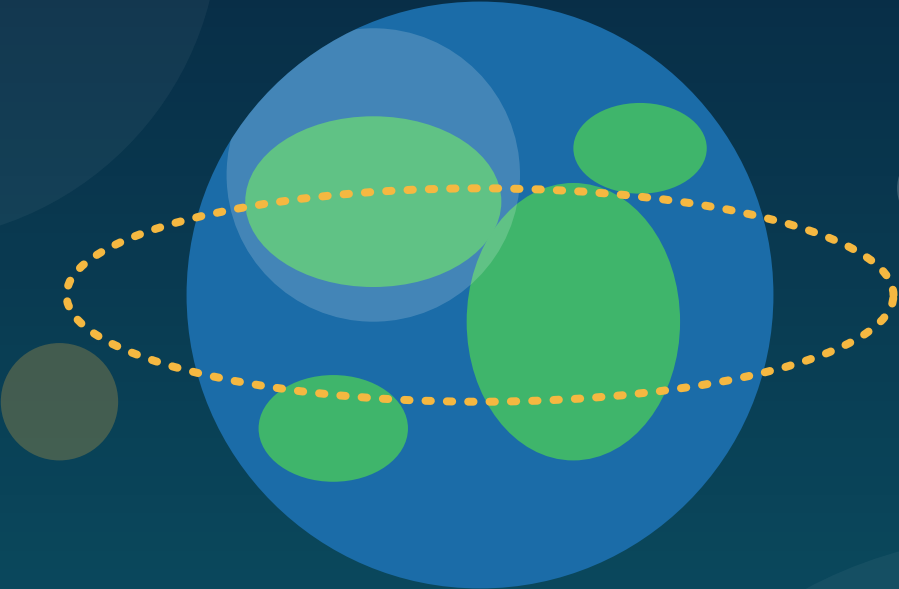




CHAPTER 10 | 9TH CLASS

● ● ● ● ● ● ● ●

Environmental Chemistry

80 High-Importance MCQs
with Ticked Answers & Clear Explanations

Annual Exam Focus

Every Key Fact

Easy Explanations

scholareye.xyz

See Smarter. Learn Better. Score Higher.

SECTION 1

Introduction & Composition of the Atmosphere

Q.

1

Which branch of chemistry deals with the study of chemicals and pollutants in the environment?

A

Organic Chemistry

B

Environmental Chemistry



C

Analytical Chemistry

D

Physical Chemistry

Explanation

Environmental chemistry specifically focuses on the sources, reactions, effects, and fates of chemical species in the air, soil, and water environments, as well as the impact of human activity on these.

Q.
2

Which gas constitutes the highest percentage of the Earth's atmosphere?

A Oxygen

B Carbon Dioxide

C Nitrogen



D Argon

Explanation

Nitrogen is the most abundant gas in the atmosphere, making up approximately 78% of the air we breathe.

Q.
3

What is the approximate percentage of Oxygen in the atmosphere?

A 78%

B 21%



C 0.934%

D 1.0%

Explanation

Oxygen is the second most abundant gas, constituting about 21% of the atmosphere, which is essential for respiration in living organisms.

Q.
4

Which noble gas is present in the highest concentration in the atmosphere?

A Neon

B Helium

C Argon



D Krypton

Explanation

Argon is a noble gas and makes up about 0.934% of the atmosphere, making it the most abundant noble gas present.

Q.
5

What is the concentration of Carbon Dioxide (CO_2) in the atmosphere?

A 1.0%

B 0.934%

C 0.04%



D 21%

Explanation

Carbon dioxide is a trace gas but crucial for photosynthesis, constituting roughly 0.04% of the atmospheric composition.

Q.

6

The amount of which component in the atmosphere varies depending upon humidity?

A

Carbon dioxide

B

Noble gases

C

Water vapours



D

Argon

Explanation

Water vapor concentration fluctuates significantly based on temperature, location, and weather conditions, unlike the relatively stable major gases.

Q.

7

Any substance in the air that has an adverse effect on human health and the quality of life is called:

A

A greenhouse gas

B

An air pollutant



C

An aerosol

D

A noble gas

Explanation

By definition, an air pollutant is any solid, liquid, or gas in the air that negatively impacts human health, the environment, or quality of life.

Q.
8**How is the concentration of a pollutant expressed?****A** Parts per billion (ppb)**B** Parts per million (ppm) **C** Percentage (%)**D** Molarity (M)**Explanation**

While ppb is used for trace amounts, the textbook explicitly defines pollutant concentration in parts per million (ppm), meaning one part of pollutant per million parts of the mixture.

Q.

9

Which gas is released when a carbonated drink is opened?

A Oxygen

B Nitrogen

C Carbon dioxide



D Argon

Explanation

Carbonated drinks are infused with carbon dioxide gas under pressure. When the bottle is opened, the pressure drops, and CO_2 escapes into the air.

SECTION 2

Major Air Pollutants & Their Sources

Q.
10

Which of the following is NOT one of the seven major air pollutants mentioned?

A

Carbon monoxide

B

Neon



C

Ozone

D

Hydrocarbons

Explanation

The seven major air pollutants listed are CO_2 , CO , NO_x , SO_x , Hydrocarbons, Particulates, and Ozone. Neon is a noble gas and not considered a pollutant.

Q.
11

What is the primary source of most air pollution caused by human activities?

- A Volcanic eruptions
- B Combustion of fossil fuels** ✓
- C Decomposition of vegetation
- D Forest fires

Explanation

The complete and incomplete combustion of fossil fuels (coal, oil, natural gas) in vehicles, industries, and power plants is the leading cause of human-made air pollution.

Q.
12

Which of the following is a natural source of air pollutants?

A Vehicle emission

B Volcanic eruption



C Industrial pollution

D Crop burning

Explanation

Volcanic eruptions are natural events that release large quantities of SO_2 , CO_2 , and particulates into the atmosphere, unlike the other options which are anthropogenic (human-made).

Q.
13

The combination of smoke and fog is known as:

A Acid rain

B Smog



C Greenhouse effect

D Ozone depletion

Explanation

Smog is a portmanteau of "smoke" and "fog," formed when smoke and other pollutants mix with fog, especially in winter, reducing visibility and causing health issues.

Q.
14

Which factors are responsible for the accumulation of nitrogen oxides, sulphur dioxide, and particulate matter in the air during winter?

A

Heavy rainfall and storms

B

Industrial pollution, vehicle emission, and crop burning

C

Planting trees and renewable energy

D

Volcanic eruptions and lightning

Explanation

In winter, temperature inversions trap pollutants close to the ground. Industrial emissions, vehicle exhaust, and crop burning significantly contribute to this toxic mix.

Q.
15

Which of the following gases is collectively referred to as NO_x ?

A Nitrous oxide and nitrogen

B Nitric oxide and nitrogen dioxide



C Nitrogen and ammonia

D Nitric acid and nitrous acid

Explanation

NO_x is a generic term for the mono-nitrogen oxides, specifically Nitric Oxide (NO) and Nitrogen Dioxide (NO_2).

SECTION 3

Harmful Effects of Pollutants

Q.
16

Which gas is extremely poisonous and causes suffocation by blocking red blood cells from carrying oxygen?

A Carbon dioxide

B Carbon monoxide



C Sulphur dioxide

D Methane

Explanation

Carbon monoxide (CO) binds to hemoglobin in red blood cells much more strongly than oxygen, preventing oxygen transport and leading to suffocation and death.

Q.
17

Higher levels of which gas lead to increased global warming, causing ice caps to melt?

A Carbon monoxide

B Carbon dioxide



C Nitrogen dioxide

D Sulphur dioxide

Explanation

CO₂ is a primary greenhouse gas. Increased concentrations trap heat in the atmosphere, leading to global warming and the melting of polar ice caps.

Q.
18

Which pollutants are primarily responsible for causing acid rain?

A

CO and CO₂

B

SO₂ and NO_x

C

CH₄ and O₃

D

Particulate matter and hydrocarbons

Explanation

Sulphur dioxide (SO₂) and nitrogen oxides (NO_x) react with water vapor in the atmosphere to form sulfuric acid and nitric acid, which fall as acid rain.

Q.
19

Breathing which pollutant can cause chest pain, coughing, throat irritation, and congestion?

A Carbon monoxide

B Ozone



C Hydrocarbons

D Particulate matter

Explanation

Ground-level ozone (O_3) is a highly reactive gas that irritates the respiratory system, causing chest pain, coughing, and throat irritation.

**Q.
20**

Which air pollutant reduces visibility by producing haze in the air?

A Ozone

B Particulate matter



C Carbon dioxide

D Nitrogen

Explanation

Particulate matter (dust, pollen, smoke) scatters light, creating a haze that significantly reduces visibility in the atmosphere.

Q.
21

Hydrocarbons in the air can cause which of the following health issues?

A Only eye irritation

B Pneumonia, coughing, and lung diseases



C Only skin allergies

D Bone degradation

Explanation

Hydrocarbons (like methane and ethane) are toxic and can cause severe respiratory issues, including pneumonia, coughing, and long-term lung diseases.

Q.
22

How does smog affect plants?

A

It increases their growth rate

B

It inhibits growth by reducing carbon dioxide absorbed during photosynthesis



C

It makes their leaves greener

D

It has no effect on plants

Explanation

Smog covers the leaves and blocks sunlight, reducing the amount of CO_2 plants can absorb for photosynthesis, thereby inhibiting their growth.

SECTION 4

Acid Rain

Q.

23**What is the pH range of acid rain?****A**

7.0 to 8.0

B

4.2 to 4.4

**C**

1.0 to 2.0

D

5.6 to 6.5

Explanation

Normal rain is slightly acidic (pH ~5.6) due to dissolved CO_2 . Acid rain is defined as having a pH between 4.2 and 4.4.

Q.
24

Who is referred to as the "Father of Acid Rain"?

☐ A Antoine Lavoisier☒ B Robert Angus Smith☐ C John Dalton☐ D Svante Arrhenius**Explanation**

In 1852, Robert Angus Smith was the first to show the relationship between acid rain and atmospheric pollution in Manchester, England.

Q.
25

Which gas is produced by the presence of sulphur in fossil fuels?

A Carbon dioxide

B Sulphur dioxide



C Nitrogen dioxide

D Methane

Explanation

When fossil fuels containing sulphur impurities are burned, the sulphur combines with oxygen to form sulphur dioxide (SO_2).

Q.
26

In the atmosphere, SO_2 is converted to SO_3 in the presence of:

A Water

B Oxides of nitrogen



C Carbon dioxide

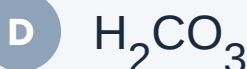
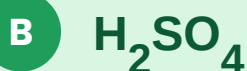
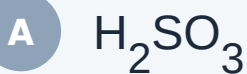
D Sunlight

Explanation

The textbook explicitly states that SO_2 is converted to SO_3 in the presence of oxides of nitrogen (NO_x) in the atmosphere.

Q.
27

What is the chemical formula of the acid formed when SO_3 dissolves in water?



Explanation

Sulphur trioxide (SO_3) reacts with water (H_2O) to form sulphuric acid (H_2SO_4), a strong acid responsible for acid rain.

Q.
28

Which acid is formed when NO_2 dissolves in water?

A Sulphuric acid

B Carbonic acid

C Nitric acid and Nitrous acid



D Hydrochloric acid

Explanation

The equation $2\text{NO}_2 + \text{H}_2\text{O} \rightarrow \text{HNO}_3 + \text{HNO}_2$ shows that nitrogen dioxide forms both nitric acid (HNO_3) and nitrous acid (HNO_2).

Q.
29

Acid rain dissolves and washes away which essential nutrients from the soil?

- A Nitrogen and Phosphorus
- B Nutrients needed by plants** 
- C Carbon and Oxygen
- D Silica and clay

Explanation

Acid rain makes soil more acidic, dissolving and washing away essential plant nutrients, which leads to stunted growth and forest destruction.

Q.
30

Which toxic substances naturally present in the soil can be dissolved by acid rain?

A Iron and Calcium

B Aluminium and Mercury



C Sodium and Potassium

D Gold and Silver

Explanation

Acid rain can leach toxic metals like aluminium and mercury from the soil into water sources, contaminating them and harming aquatic life and human health.

**Q.
31**

Why are historical monuments like the Taj Mahal and the Parthenon deteriorating?

A Due to excessive tourism

B Due to acid rain and dry deposition of acidic particles



C Due to global warming

D Due to earthquakes

Explanation

These structures are made of limestone/marble, which react with the acids in acid rain, causing corrosion and deterioration of the stone.

Q.
32

How can farmers prevent acid rain damage to their crops?

A

By adding more fertilizers

B

By adding crushed lime (CaO) to neutralize the acid



C

By watering the plants more frequently

D

By covering the crops with plastic

Explanation

Crushed lime (calcium oxide, CaO) is a base that neutralizes the acidity of the soil, restoring a suitable pH for crop growth.

Q.

33

Which of the following is NOT an effect of acid rain on aquatic life?

- A It makes water too acidic for fish to survive.
- B It damages the food chain in lakes and rivers.
- C It increases the oxygen content of the water. ✓**
- D It causes many lakes and rivers to have no fish.

Explanation

Acid rain lowers the pH of water, which is toxic to fish and aquatic organisms. It does not increase oxygen content; in fact, it can lead to the release of toxic metals that harm aquatic life.

SECTION 5

Global Warming & Greenhouse Effect

Q.

34

The progressive warming of the Earth's surface due to the blanketing effect of man-made gases is called:

A

Acid rain

B

Greenhouse effect



C

Ozone depletion

D

Smog formation

Explanation

The greenhouse effect is the trapping of the sun's warmth in a planet's lower atmosphere due to the greater transparency of the atmosphere to visible radiation from the sun than to infrared radiation emitted from the planet's surface.

Q.
35

Which of the following is NOT a greenhouse gas?

☐ A Carbon dioxide☐ B Methane☐ C Water vapour☒ D Nitrogen**Explanation**

Nitrogen (N_2) makes up 78% of the atmosphere but does not absorb infrared radiation, so it is not a greenhouse gas. CO_2 , CH_4 , and H_2O vapor are greenhouse gases.

Q.
36

The sun emits shortwave radiation that passes through greenhouse gases to heat the Earth. What does the Earth emit back?

A Shortwave radiation

B Longwave radiation



C Ultraviolet radiation

D X-rays

Explanation

The Earth absorbs shortwave solar radiation and re-emits it as longwave (infrared) radiation, which is then absorbed by greenhouse gases, trapping heat.

**Q.
37**

Which greenhouse gas is responsible for about half of the Earth's greenhouse effect?

A Carbon dioxide

B Methane

C Water vapours



D Ozone

Explanation

The textbook explicitly states that water vapours are Earth's most abundant greenhouse gas and are responsible for about half of the greenhouse effect.

Q.
38

Which human activity has significantly reduced the capacity of trees to remove CO_2 from the air?

A Urbanization

B Deforestation



C Industrialization

D Crop burning

Explanation

Deforestation (cutting down forests) removes trees that absorb CO_2 during photosynthesis, thereby reducing the Earth's capacity to remove this greenhouse gas from the atmosphere.

Q.
39

The increase of which gas in the atmosphere is due to the increased decay of vegetation, digestion in animals, and rice farming?

A Carbon dioxide

B Methane



C Nitrous oxide

D Ozone

Explanation

Methane (CH_4) is produced by anaerobic decomposition of organic matter (vegetation decay), enteric fermentation in animals, and flooded rice paddies.

Q.
40

How does the thick layer of CO_2 in the lower atmosphere behave?

- A Like a mirror reflecting sunlight
- B Like a glass sheet of a greenhouse** ✓
- C Like a blanket blocking all radiation
- D Like a filter absorbing UV rays

Explanation

The CO_2 layer acts like the glass of a greenhouse, allowing incoming solar radiation to pass through but preventing the outgoing infrared radiation from escaping, thus warming the Earth.

Q.
41

What is the consequence of higher temperatures on the sea and oceans?

A The water shrinks

B The water expands, leading to a rise in sea level



C The water becomes less salty

D The water freezes faster

Explanation

Higher temperatures cause thermal expansion of water. Combined with the melting of ice in Antarctica and Greenland, this leads to a significant rise in sea levels.

Q.
42

Which countries are mentioned as being threatened by rising sea levels?

A USA and Canada

B Netherlands and Bangladesh



C Brazil and Argentina

D China and Japan

Explanation

The textbook specifically mentions the Netherlands and Bangladesh as low-lying coastal areas threatened by rising sea levels caused by global warming.

Q.
43

What effect does global warming have on agriculture?

A It improves the yield of all crops equally

B It changes the types of crops that can be grown in different regions



C It has no impact on agriculture

D It only affects maize and sugar cane

Explanation

Climate change alters weather patterns, affecting where certain crops can grow. Some crops like wheat and rice might benefit from higher temperatures, while others like maize and sugarcane do not.

Q.
44

In moderate regions, what change in seasons is observed due to global warming?

A Longer winters and shorter summers

B Shorter and warmer winters, longer and hotter summers



C No change in seasons

D Colder summers and warmer winters

Explanation

Global warming disrupts normal weather patterns, leading to milder, shorter winters and extended, hotter summers in moderate climate zones.

SECTION 6

Strategies to Reduce Environmental Issues

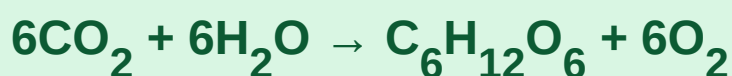
Q.
45

What is the chemical equation for photosynthesis performed by plants to clean the air?

A



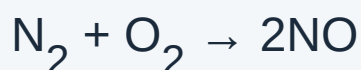
B



C



D



Explanation

Photosynthesis uses carbon dioxide and water, in the presence of sunlight and chlorophyll, to produce glucose and oxygen. This process removes CO_2 from the air.

Q.
46

Which catalyst is used in the catalytic converter to reduce nitrogen oxides into elemental nitrogen and oxygen?

A Platinum

B Catalytic converter (Three-way catalyst)



C Chlorophyll

D Calcium oxide

Explanation

A three-way catalytic converter simultaneously converts NO_x to N_2 and O_2 , oxidizes CO to CO_2 , and oxidizes hydrocarbons to CO_2 and H_2O .

Q.
47

In a catalytic converter, carbon monoxide is oxidized to:

A Carbon

B Carbon dioxide



C Methane

D Carbonic acid

Explanation

The catalytic converter uses oxygen to oxidize poisonous CO into less harmful CO₂: $2\text{CO(g)} + \text{O}_2\text{(g)} \rightarrow 2\text{CO}_2\text{(g)}$.

Q.
48

What is the purpose of adding calcium oxide in the flue gas desulfurization process?

A To increase the temperature of the flue gas

B To remove up to 95% of sulphur dioxide



C To convert CO to CO₂

D To produce more energy

Explanation

Flue gas desulfurization involves adding adsorbents like calcium oxide (CaO) to the exhaust gases to remove sulphur dioxide (SO₂), reducing acid rain precursors.

Q.
49

Which of the following is considered a renewable energy resource?

A

Coal

B

Natural Gas

C

Wind and Solar

**D**

Petroleum

Explanation

Renewable resources can be replenished naturally over time. Wind, solar, water, geothermal, and biomass are renewable, whereas fossil fuels are non-renewable.

Q.
50

Which natural radioactive gas, when built up indoors, increases the risk of lung cancer?

A Methane

B Radon



C Ozone

D Carbon monoxide

Explanation

Radon is a naturally occurring radioactive gas that can accumulate in buildings, particularly in basements, and prolonged exposure significantly increases the risk of lung cancer.

SECTION 7

Air Quality and Health Protection

Q.

51

What does the Air Quality Index (AQI) measure?

A

The temperature of the air

B

How bad the atmosphere is around you



C

The humidity levels

D

The wind speed

Explanation

AQI is a rating system that communicates how polluted the air currently is or how polluted it is forecast to become, indicating the associated health risks.

**Q.
52**

According to the text, what AQI value is considered good and safe?

A Under 100

B Under 50



C Under 200

D Over 300

Explanation

An AQI value under 50 is considered good quality, posing little to no risk. As the value increases, the risk to health increases.

Q.

53

An AQI over what value is considered hazardous?

A 100

B 200

C 300



D 500

Explanation

The text explicitly states that an AQI over 300 is considered hazardous, meaning everyone should avoid outdoor activities.

Q.
54

Which group of people is considered at high risk from air pollution?

A Healthy adults aged 20-40

B Children under 18, adults over 65, and people with chronic diseases



C Only outdoor workers

D Only pregnant women

Explanation

Children, the elderly, and those with pre-existing heart or lung conditions (like asthma or diabetes) are more susceptible to the harmful effects of air pollution.

Q.

55

Which type of mask is recommended for better filtration against fine particulate matter?

A

Cloth mask

B

Dust mask

C

Well-fitted N95 mask



D

Surgical mask

Explanation

The text notes that cloth or dust masks may not effectively filter fine particles. Well-fitted N95 masks have better filtration capabilities and are recommended.

Q.
56

Which device should be installed to detect increased levels of carbon monoxide indoors?

A Smoke detector

B Carbon monoxide detector



C Radon detector

D AQI monitor

Explanation

CO is a colorless, odorless gas. A carbon monoxide detector is essential to alert occupants if this poisonous gas builds up due to faulty fuel-burning appliances.

Q.
57

What should you do to keep your indoors healthy during poor air quality?

A Open all windows for ventilation

B

Keep windows and doors closed, and use an air cleaner

**C**

Burn incense to mask the smell

D

Exercise vigorously indoors

Explanation

To reduce exposure to outdoor pollutants, it is advised to keep windows and doors closed. Using an air conditioner or air cleaner helps maintain clean indoor air.

SECTION 8

Advanced & Miscellaneous Facts

Q.

58

Which gas is produced by the reaction of atmospheric nitrogen and oxygen in the presence of lightning?

A



B



C



D

**Explanation**

Lightning provides enough energy to break the strong triple bond in N_2 , allowing it to react with O_2 to form nitric oxide (NO), which further oxidizes to NO_2 .

Q.
59

What is the primary cause of acid rain in the industrial and domestic combustion processes?

A Release of CO_2

B Direct combination of atmospheric oxygen and nitrogen



C Release of methane

D Burning of wood

Explanation

High temperatures in combustion processes cause atmospheric nitrogen and oxygen to combine, forming nitrogen oxides (NO_x), which are precursors to acid rain.

Q.
60

Which gas is released during the incomplete combustion of carbon fuel in engines?

A Carbon dioxide

B Carbon monoxide



C Methane

D Sulphur dioxide

Explanation

When there is insufficient oxygen for complete combustion, carbon fuel burns incompletely to produce carbon monoxide (CO) instead of carbon dioxide (CO₂).

Q.
61

What is the chemical formula of the precipitate formed when acid rain reacts with limestone (CaCO_3)?

A CaO

B CaSO_4



C Ca(OH)_2

D CaCl_2

Explanation

Acid rain (H_2SO_4) reacts with limestone (CaCO_3) to form calcium sulphate (CaSO_4), which is slightly soluble and causes the erosion of the stone.

Q.

62

Which of the following is NOT a source of greenhouse gases?

A

Burning of coal and oil

B

Photosynthesis by plants



C

Deforestation

D

Rice farming

Explanation

Photosynthesis removes CO_2 from the atmosphere, acting as a carbon sink, not a source of greenhouse gases.

Q.
63

How much ice has been lost globally since 1990 according to the text?

A 1.2 trillion tonnes

B 28 trillion tonnes



C 100 million tonnes

D 3.04 trillion tonnes

Explanation

The textbook's "Interesting Information" box states that we have lost around 28 trillion tonnes of ice since 1990, with a melting rate of 1.2 trillion tonnes per year.

Q.
64

Which of the following is a major air pollutant that causes pneumonia and other breathing diseases?

A Carbon dioxide

B Hydrocarbons



C Water vapour

D Argon

Explanation

Table 10.2 lists Hydrocarbons as causing pneumonia, coughing, and many other breathing and lung diseases.

Q.
65

The reaction $2\text{NO}_2 + \text{H}_2\text{O} \rightarrow \text{HNO}_3 + \text{HNO}_2$ represents the formation of:

A Sulphuric acid

B Nitric acid and nitrous acid



C Carbonic acid

D Hydrochloric acid

Explanation

This specific equation shows how nitrogen dioxide (NO_2) from vehicle emissions reacts with moisture in the air to form nitric acid and nitrous acid, contributing to acid rain.

Q.
66

Which of the following is NOT a major constituent of the atmosphere?

A Nitrogen

B Oxygen

C Carbon dioxide



D Argon

Explanation

Nitrogen, Oxygen, and Argon are major constituents (making up over 99.9% combined). CO_2 is a minor constituent (0.04%).

Q.
67

What is the primary reason for the rapid growth of population, urbanization, industrialization, and transportation affecting the environment?

A

They decrease the use of fossil fuels

B

They are the main factors responsible for environmental pollution

**C**

They increase the amount of forests

D

They reduce the need for renewable energy

Explanation

These human activities have expanded rapidly, especially in the last half-century, leading to a massive increase in the emission of pollutants into the atmosphere.

Q.
68

In the reaction $\text{S} + \text{O}_2 \rightarrow \text{SO}_2$, what is the role of oxygen?

A Catalyst

B Reactant



C Product

D Solvent

Explanation

Oxygen (O_2) is a reactant that combines with sulphur (S) to produce sulphur dioxide (SO_2) as the product.

Q.
69

How does an increase in global temperature affect the climate?

A It stabilizes the climate

B It causes significant changes in climate, damaging agriculture



C It only affects the oceans

D It has no effect on climate

Explanation

A rise of a few degrees in temperature can cause significant shifts in climate patterns, leading to extreme weather events, droughts, and floods that damage agriculture and food production.

Q.
70

Which gas acts as a blanket in the lower atmosphere, trapping heat?

A Nitrogen

B Oxygen

C Carbon dioxide



D Argon

Explanation

CO₂ and other greenhouse gases allow incoming solar radiation to pass through but absorb outgoing infrared radiation, acting like a blanket that traps heat.

Q.
71

Which of the following is a strategy to reduce the effects of major environmental issues?

- A Increasing the use of fossil fuels
- B Planting trees and reducing livestock farming** ✓
- C Increasing vehicle emissions
- D Using more fertilizers and pesticides

Explanation

Planting trees increases CO_2 absorption, while reducing livestock farming decreases methane emissions. Both are key strategies to mitigate environmental issues.

Q.
72

What is the source of the particulate matter that is removed by plants?

A Plant respiration

B Dust, pollen, and metallic compounds



C Water vapor

D Nitrogen oxides

Explanation

Plants act as natural filters, trapping particulate matter like dust, pollen, and metallic compounds on their leaves, branches, and trunk surfaces.

Q.
73

Which of the following is NOT a function of a three-way catalytic converter?

- A Reduces nitrogen oxides into elemental nitrogen and oxygen.
- B Oxidizes CO to CO_2 .
- C Converts SO_2 to SO_3 .** 
- D Oxidizes hydrocarbons into CO_2 and H_2O .

Explanation

The three-way catalytic converter handles NO_x , CO, and hydrocarbons. Sulphur dioxide removal is done via flue gas desulfurization, not by catalytic converters.

Q.
74**What is the primary source of radon gas indoors?**

A

Leaking gas pipes

B

Natural radioactive decay of uranium in soil and rock

C

Burning of fossil fuels

D

Use of cleaning products

Explanation

Radon is a naturally occurring radioactive gas produced by the decay of uranium in soil, rock, and water. It can seep into buildings through cracks in foundations.

Q.
75**What is the effect of breathing ozone?**

- A** It improves lung function
- B** It causes chest pain, coughing, and throat irritation 
- C** It causes skin rashes
- D** It has no effect on health

Explanation

Ozone is a powerful oxidant that irritates the respiratory system, causing chest pain, coughing, throat irritation, and congestion when inhaled.

Q.
76

Which of the following is an anthropogenic source of air pollution?

A Volcanic eruption

B Vehicle emission



C Decomposition of vegetation

D Lightning

Explanation

Anthropogenic sources are those caused by human activities. Vehicle emissions, industrial processes, and crop burning are all human-made sources.

Q.
77**Acid rain affects aquatic life by:**

- A** Increasing the pH of water
- B** Making water too acidic for animals to live 
- C** Providing more nutrients to fish
- D** Increasing the oxygen content

Explanation

Acid rain falls into lakes and rivers, lowering their pH. This acidic environment is toxic to fish and other aquatic organisms, often leading to their death.

Q.
78

What is the chemical formula of the precipitate formed when acid rain reacts with marble (CaCO_3)?

A CaO

B CaSO_4



C Ca(OH)_2

D CaCl_2

Explanation

Similar to limestone, marble (CaCO_3) reacts with sulfuric acid in acid rain to form calcium sulfate (CaSO_4), which is slightly soluble and causes the erosion of the stone.

Q.
79

Which of the following is NOT a way to reduce environmental pollution?

A Using renewable energy sources

B Planting trees

C Increasing the use of fossil fuels



D Using catalytic converters

Explanation

Increasing the use of fossil fuels directly increases the emission of CO_2 , SO_2 , and NO_x , worsening environmental pollution.

Q.
80

What does the term "ppm" stand for in the context of air pollution?

A Particles per molecule

B Parts per million



C Pollution per meter

D Percentage per mass

Explanation

The textbook defines ppm as "parts per million," a unit of measurement used to express the concentration of a pollutant in air or water.



Well Done!

You have completed Chapter 10

You have revised 80 high-importance MCQs on Environmental Chemistry: the atmosphere, air pollutants, acid rain, global warming and ways to protect our planet.

QUICK REVISION TIPS

- Re-read the explanations of questions you missed
- Memorise key numbers: 78%, 21%, 0.04%, pH 4.2 to 4.4
- Practise the equations for acid rain formation

Best of luck with your annual exams!

scholareye.xyz

More chapters, more MCQs, more success.