

Atmosphere and environment MCQS

Compiled by : Mustafa Asif

- 1 Pollutant gases are released by the bacterial decay of vegetable matter.

The bacterial decay of vegetable matter is the main source of which gas?

- A carbon monoxide
- B methane
- C nitrogen dioxide
- D sulfur dioxide

- 2 Lakes contain a variety of dissolved substances.

Which substance is responsible for eutrophication in lakes?

- A metal compounds
- B nitrate fertilisers
- C oxygen
- D sulfuric acid

- 3 Several different treatments are used to purify the water supply.

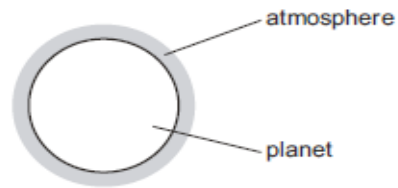
Which impurities can be removed by which treatment?

	filtration	use of carbon	chlorination
A	harmful microbes	solids	unpleasant odours and tastes
B	harmful microbes	unpleasant odours and tastes	solids
C	solids	harmful microbes	unpleasant odours and tastes
D	solids	unpleasant odours and tastes	harmful microbes

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- 4 A new planet has been discovered and its atmosphere has been analysed.



The table shows the composition of its atmosphere.

gas	percentage by volume
carbon dioxide	4
nitrogen	72
oxygen	24

Which gases are present in the atmosphere of the planet in a higher percentage than they are in the Earth's atmosphere?

- A carbon dioxide and oxygen
- B carbon dioxide only
- C nitrogen and oxygen
- D nitrogen only

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- 5 Sulfur dioxide, carbon monoxide and oxides of nitrogen are common gaseous pollutants found in the air.

Which pollutants contribute to acid rain?

- A carbon monoxide and sulfur dioxide
- B oxides of nitrogen and sulfur dioxide
- C oxides of nitrogen only
- D sulfur dioxide only

- 6 Which compound is **not** used as a fertiliser?

- A ammonium phosphate
- B ammonium sulfate
- C calcium carbonate
- D potassium nitrate

- 7 Lime (calcium oxide) is used to treat waste water from a factory.

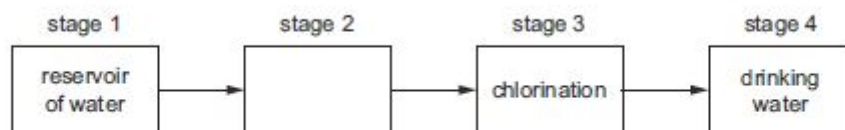
Which substance is removed by the lime?

- A ammonia
- B sodium chloride
- C sodium hydroxide
- D sulfuric acid

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8 The diagram shows how water is treated to make it suitable for drinking.



What happens in stage 2?

- A condensation
- B sublimation
- C evaporation
- D filtration

9 A farmer treats a field with calcium hydroxide to make it less acidic.

When the farmer adds ammonium nitrate fertiliser to the field immediately after the calcium hydroxide, they react.

Why does this reaction make the fertiliser less effective?

- A It makes ammonia gas, so less nitrogen is absorbed by the soil.
- B It makes an acid, making the soil acidic again.
- C It makes nitrogen gas, so less nitrogen is absorbed by the soil.
- D It makes the fertiliser too strong, stopping the plants growing so well.

10 Which row showing an air pollutant and its major source is **not** correct?

	pollutant	major source of pollutant
A	carbon monoxide	complete combustion of carbon fuels
B	lead compounds	leaded petrol
C	oxides of nitrogen	car engines
D	sulfur dioxide	fossil fuels containing sulfur

11 Methane and carbon dioxide are both greenhouse gases.

Which row identifies a source of methane and a source of carbon dioxide?

	source of methane	source of carbon dioxide
A	decomposition of vegetation	hydrogen car exhausts
B	digestion in animals	diesel car exhausts
C	petrol car exhausts	decomposition of vegetation
D	respiration	petrol car exhausts

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- 12 Which pair of gases are both non-acidic?
- A ammonia and methane
 - B carbon dioxide and ammonia
 - C methane and nitrogen dioxide
 - D nitrogen dioxide and carbon dioxide
- 13 Which term correctly describes the conversion of seawater into drinkable water?
- A chlorination
 - B desalination
 - C filtration
 - D neutralisation

- 14 Seawater is desalinated to make it drinkable.

What is the main substance removed by desalination?

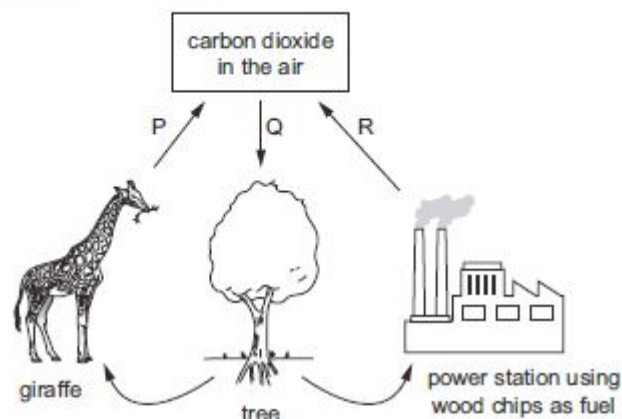
- A detergent
 - B fertiliser
 - C sewage
 - D sodium chloride
- 15 Which row is correct for both carbon dioxide and methane?

	causes climate change	produced by burning fuels	produced by living organisms
A	✓	✓	✓
B	✓	✓	x
C	✓	x	✓
D	x	✓	✓

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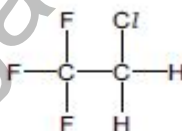
16 The diagram shows part of the carbon cycle.



What are processes P, Q and R?

	P	Q	R
A	combustion	photosynthesis	respiration
B	photosynthesis	combustion	respiration
C	respiration	combustion	photosynthesis
D	respiration	photosynthesis	combustion

17 CFC compounds were used as aerosol propellants. The structure of one CFC compound is shown.



Which element in this compound causes a depletion of ozone in the atmosphere?

- A carbon
- B chlorine
- C fluorine
- D hydrogen

18 What is removed or destroyed when water is desalinated to make it drinkable?

- A bad odours
- B harmful bacteria
- C sodium chloride
- D solid particles

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19 Dry air is a mixture of gases of which 99% is nitrogen and oxygen.

What is the main constituent of the remaining 1%?

- A argon
- B helium
- C hydrogen
- D water vapour

20 Why is chlorine added to the water supply?

- A Chlorine is used to desalinate the water.
- B Chlorine kills bacteria that may be present in the water.
- C Chlorine precipitates solids that may be present in the water.
- D Chlorine removes tastes and odours from the water.

21 A farmer spread ammonium nitrate, a nitrogenous fertiliser, on a field. The next day he spread calcium hydroxide on the same field. This caused a loss of nitrogen from the ammonium nitrate.

Which chemical reaction occurred?

- A The calcium ions reacted with the ammonium ions, producing ammonia gas.
- B The calcium ions reacted with the nitrate ions, producing oxides of nitrogen.
- C The hydroxide ions reacted with the ammonium ions, producing ammonia gas.
- D The hydroxide ions reacted with the nitrate ions, producing oxides of nitrogen.

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22 Which row correctly compares carbon dioxide and methane?

	both contain carbon	both are described as a greenhouse gas	both lower the pH of water when they dissolve in it
A	✓	x	✓
B	✓	✓	x
C	x	✓	✓
D	x	✓	x

23 Fossil fuels are used to power some internal combustion engines.

Which pollutants are produced by an internal combustion engine burning fossil fuels?

- 1 carbon monoxide
- 2 nitrogen oxides
- 3 sulfur dioxide

A 1, 2 and 3 B 1 and 2 only C 1 and 3 only D 2 and 3 only

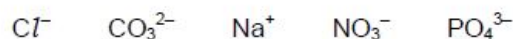
24 Bottled fruit juice may have small amounts of sulfur dioxide added.

What is the purpose of this?

- A to adjust the acidity of the fruit juice
- B to kill any bacteria present
- C to improve the flavour of the fruit juice
- D to neutralise any alkalis present

25 Dissolved substances in water can cause eutrophication.

How many of the ions shown cause this effect?



A 1 B 2 C 3 D 4

26 Which list contains only gases that are always present in unpolluted air?

- A oxygen, nitrogen, carbon dioxide, argon, carbon monoxide, nitrogen dioxide
- B oxygen, nitrogen, carbon dioxide, argon, neon
- C oxygen, nitrogen, carbon dioxide, nitrogen dioxide, ozone
- D oxygen, nitrogen, carbon monoxide, methane, sulfur dioxide

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- 27 The table shows treatments used for drinking water supplies and reasons for using those treatments.

Which row is correct?

	method of water treatment	reason
A	chlorination	removes tastes
B	desalination	removes solids
C	filtration	removes salt
D	use of carbon	removes odours

- 28 The table shows some atmospheric pollutants and their possible effects.

Which row is **not** correct?

	pollutant	effect
A	CFCs	cause depletion of the ozone layer
B	CO ₂	forms photochemical smog
C	CO	is poisonous to humans
D	NO ₂	forms acid rain

- 29 Which pollutant causes eutrophication in rivers?

- A** acid rain
- B** carbon monoxide
- C** fertiliser
- D** metal compounds

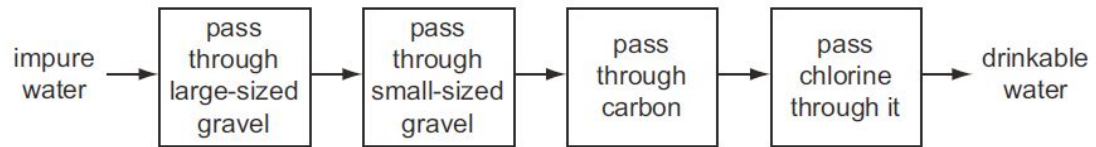
- 30 Which ion is present in both sewage and fertilisers and can cause eutrophication when it enters rivers?

- A** carbonate
- B** chloride
- C** nitrate
- D** sulfate

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- 31 The flow chart shows how impure water can be treated to produce drinkable water.



What is **not** removed from the water by this process?

- A clay particles
- B microbes
- C nitrates
- D odours

Mega Lecture

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Marking Scheme

- | | |
|------|------|
| 1-B | 25-B |
| 2-B | 26-B |
| 3-D | 27-D |
| 4-A | 28-B |
| 5-B | 29-C |
| 6-C | 30-C |
| 7-D | 31-C |
| 8-D | |
| 9-A | |
| 10-A | |
| 11-D | |
| 12-A | |
| 13-B | |
| 14-D | |
| 15-C | |
| 16-D | |
| 17-B | |
| 18-C | |
| 19-C | |
| 20-C | |
| 21-C | |
| 22-B | |
| 23-A | |
| 24-B | |