

O Level Combined Chemistry MCQs

Atmosphere Test 1.0

Q1

The pH of unpolluted rainwater is about 6.

Which of the following gases is responsible for this?

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

Q2

The gases coming from a car's exhaust contain oxides of nitrogen.

How are these oxides formed?

- A Nitrogen reacts with carbon dioxide.
- B Nitrogen reacts with carbon monoxide.
- C Nitrogen reacts with oxygen.
- D Nitrogen reacts with petrol.

Q3

Carbon monoxide is a pollutant emitted from car exhausts.
Which of its properties makes it harmful to humans?

- A It has no colour, taste or smell.
- B It has a corrosive action on lung tissues.
- C It forms a stable compound with blood.
- D It combined with oxygen in the lungs.

Q4

A steel manufacturing plant is built near to a city.
The limestone buildings in the city begin to crumble.

Which gas is most likely to cause this damage?

- A carbon dioxide
- B carbon monoxide
- C oxygen
- D sulfur dioxide

Q5

The table shows the composition of exhaust gases from an internal combustion engine.

gas	% of the gas in the exhaust fumes
gas Y	71
carbon dioxide	14
water vapour	13
carbon monoxide	1
hydrocarbons	0.3
nitrogen oxides	0.2
sulfur dioxide	less than 0.003

What is gas Y?

- A ammonia
- B argon
- C chlorine
- D nitrogen

Q6

Which row correctly matches an atmospheric pollutant to its source?

	pollutant	source
A	carbon monoxide	complete combustion of fossil fuels
B	oxides of nitrogen	vehicle exhaust fumes
C	oxides of nitrogen	volcanic eruption
D	sulfur dioxide	lightning activity

Q7

The waste gases from a coal-burning power station are passed through a wet mixture of powdered calcium carbonate and calcium oxide. This is to reduce the amount of pollutants released into the environment.

Which gas will not be removed by this mixture?

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

Q8

A sample of polluted air contains carbon dioxide, carbon monoxide, nitrogen, sulfur dioxide and water vapour.

Which gases can also be found in a dry sample of unpolluted air?

- A carbon dioxide and nitrogen
- B carbon dioxide, carbon monoxide and nitrogen
- C carbon dioxide, nitrogen and water vapour
- D carbon monoxide, nitrogen and sulfur dioxide

Q9

The table below shows information about the exhaust fume produced from car engines that run on petrol and diesel respectively.

	concentration of carbon monoxide present	concentration of nitrogen oxides present	concentration of sulfur dioxide present
petrol engine	high	low	low
diesel engine	low	high	high

Which of the following statements can be inferred using the data in the table?

- A Cars running on diesel produce fumes that are less sooty.
- B Burning petrol contributes more towards the formation of acid rain.
- C Burning petrol generates more heat in the combustion engine.
- D Cars running on diesel do not need to be fitted with catalytic converters.

Q10

The following gases are present in car exhaust fumes.

- carbon dioxide
- carbon monoxide
- nitrogen
- nitrogen dioxide
- water vapour

Which of these gases is/ are also present in unpolluted air?

- A nitrogen only
- B nitrogen and water vapour only
- C nitrogen, carbon dioxide and water vapour only
- D nitrogen, carbon monoxide, carbon dioxide and water vapour only

Answers

Atmosphere Test 1.0

Q1 B

Q2 C

Q3 C

Q4 D

Q5 D

Q6 B

Q7 B

Q8 A

Q9 A

Q10 C

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