

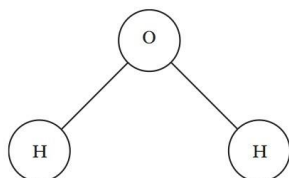
Prelim Revision MCQ20_E

Write the title of this Exercise as a heading: Prelim Revision MCQ20_E



1.

The diagram below shows a water molecule.



Which of the following statements correctly describes this molecule?

- A Atoms held together by weak bonds
- B Atoms held together by strong bonds
- C Ions held together by weak bonds
- D Ions held together by strong bonds

2.

A butter melting	B distillation of crude oil
C wood burning	D water evaporating

Identify the chemical reaction.

3.

In a neutralisation reaction between an acid and an alkali, the pH

- A of the acid increases
- B of the acid is unchanged
- C of the alkali increases
- D of the alkali is unchanged.

4.

What is the relative formula mass of ammonium sulfate $(\text{NH}_4)_2\text{SO}_4$

- A 70
- B 118
- C 132
- D 228

11.

0.25 mol of potassium hydroxide was dissolved in water and the solution made up to 500 cm^3 .

What was the concentration, in mol l^{-1} , of the solution which was formed?

- A 0.0005
- B 0.125
- C 0.5
- D 2.0

12.

When nickel(II) chloride solution is added to sodium carbonate solution an insoluble solid is formed.

A sample of the solid can be separated from the mixture by

- A condensation
- B distillation
- C evaporation
- D filtration.

13.

Different isotopes of the same element have identical

- A nuclei
- B mass numbers
- C numbers of neutrons
- D numbers of protons.

14.

Which of the following would produce the most dilute solution?

- A 5 g of copper sulfate dissolved in 50 cm^3 of water
- B 5 g of copper sulfate dissolved in 100 cm^3 of water
- C 10 g of copper sulfate dissolved in 50 cm^3 of water
- D 10 g of copper sulfate dissolved in 100 cm^3 of water

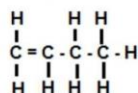
5.

An acidic solution contains

- A only hydrogen ions
- B more hydrogen ions than hydroxide ions
- C more hydroxide ions than hydrogen ions
- D equal numbers of hydrogen ions and hydroxide ions.

6.

The structural formula for hydrocarbon X is

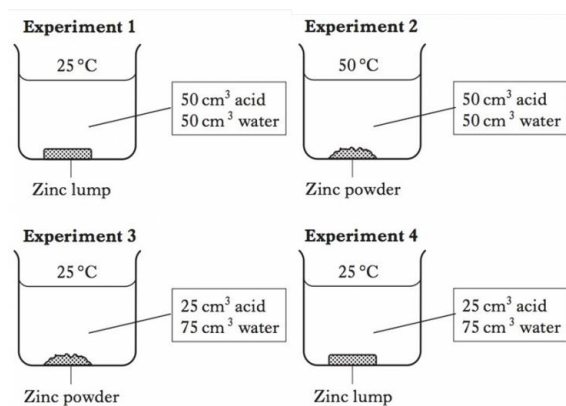


Which of the statements about hydrocarbon X is true?

- A X is named but-2-ene
- B X is a saturated hydrocarbon
- C X rapidly decolorises bromine solution
- D X belongs to a group of hydrocarbons with the general formula $\text{C}_n\text{H}_{2n+2}$

7.

A student investigated the reaction between zinc and dilute acid.



Which experiments show how changing acid concentration affects the rate of the reaction?

- A 1 and 2
- B 2 and 3
- C 3 and 4
- D 1 and 4

15.

Which metal would be a solid at 1000°C ?

You may wish to use your data book

- A aluminium
- B gold
- C magnesium
- D sulfur

16.

A metal X reacts with oxygen to form an oxide, X_2O_3 .

During the reaction each atom of metal X

- A gains two electrons
- B gains three electrons
- C loses two electrons
- D loses three electrons

17.

What functional group is always found in an ester?

- A $\begin{array}{c} \text{H} \\ | \\ -\text{N}- \\ | \\ \text{H} \end{array}$
- B $\begin{array}{c} \diagup \quad \diagdown \\ \text{C} = \text{C} \\ \diagdown \quad \diagup \end{array}$
- C $\begin{array}{c} \text{O} \quad \text{H} \\ || \quad | \\ -\text{C}-\text{N}- \end{array}$
- D $\begin{array}{c} \text{O} \\ || \\ -\text{C}-\text{O}-\text{C}- \\ | \end{array}$

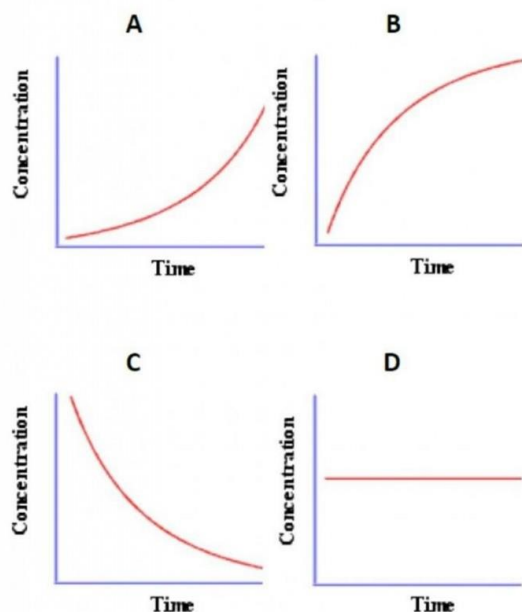
8.

Which pair of statements is true, when a catalyst is used in a reaction?

	Speed of reaction	Amount of catalyst present
A	increases	decreases
B	stays same	stays same
C	increases	stays same
D	stays same	decreases

9.

Examine the graphs below.



Which of the graphs shows the change in the concentrations of **products** in a chemical reaction over time?

10.

Which of the following pairs of chemicals react to produce a gas that turns lime water milky?

- A Calcium carbonate and dilute hydrochloric acid
- B Copper oxide and dilute sulphuric acid
- C Copper and dilute hydrochloric acid
- D Magnesium and dilute sulphuric acid

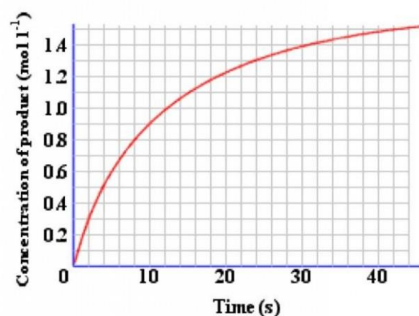
18.

Which of the following sodium chloride solutions would contain the most dissolved solute?

- A 100cm³ of 4 mol l⁻¹ solution
- B 200 cm³ of 3 mol l⁻¹ solution
- C 300 cm³ of 1 mol l⁻¹ solution
- D 400 cm³ of 0.5 mol l⁻¹ solution

19.

Examine the graph below.



Which time best shows the end of the reaction ?

- A 0 - 10 seconds
- B 0 seconds
- C 40 seconds
- D later than 40 seconds (off the end of the graph)

20.

Reactions can be represented using ionic equations. Which ionic equation shows a neutralisation reaction?

- A $2\text{H}_2\text{O}(\ell) + \text{O}_2(\text{g}) + 4\text{e}^- \rightarrow 4\text{OH}^-(\text{aq})$
- B $\text{H}^+(\text{aq}) + \text{OH}^-(\text{aq}) \rightarrow \text{H}_2\text{O}(\ell)$
- C $\text{SO}_2(\text{g}) + \text{H}_2\text{O}(\ell) \rightarrow 2\text{H}^+(\text{aq}) + \text{SO}_3^{2-}(\text{aq})$
- D $\text{NH}_4^+(\text{s}) + \text{OH}^-(\text{s}) \rightarrow \text{NH}_3(\text{g}) + \text{H}_2\text{O}(\ell)$