

Question **1**

Not yet answered

Marked out of 1.00

In which of the following substances is there no hydrogen bond formation between the molecules?

Select one:

- liquid SO₂
- hydrogen-fluoride
- formic acid
- buthanol
- acetamide

Question **2**

Not yet answered

Marked out of 1.00

The chemical formula of one of the nitrogen oxides is N₂O₅. What mass of nitrogen would be found in 54 g of N₂O₅?

Select one:

- 33 g
- 46 g
- 14 g
- 7 g
- 28 g

Question **3**

Not yet answered

Marked out of 1.00

What is the average molar mass of a mixture containing 3 mol of propane and 1 mol of hydrogen? The molar mass of C₃H₈ is 44.0 g/mol. the molar mass of H₂ is 2.0 g/mol.

Select one:

- 1.34 g/mol
- 33.5 g/mol
- 2.0 g/mol
- 134 g/mol
- 3.35 g/mol

Question **4**

Not yet answered

Marked out of 1.00

The reaction between 1-propene and hydrogen-chloride is an example of

Select one:

- reduction
- addition
- substitution
- oxidation
- elimination

Question **5**

Not yet answered

Marked out of 1.00

Aqueous H_2SO_4 solution is electrolyzed using graphite electrodes. Select the correct statement!

Select one:

- On the surface of the anode oxidation occurs.
- Hydrogen gas is liberated on the anode.
- Oxygen gas is liberated on the cathode.
- After electrolysis the H_2SO_4 solution becomes more diluted.
- During the electrolysis identical volume of gases are liberated.

Question **6**

Not yet answered

Marked out of 1.00

Which of the following gases under identical conditions (temperature, pressure) contains the largest number of molecules?

Select one:

- 100 g HBr
- 100 g Ar
- 100 g Cl_2
- 100 g SO_2
- 100 g NO

Question **7**

Not yet answered

Marked out of 1.00

A pH = 12 solution

Select one:

- of sodium hydroxide contains 0.01 mol/dm^3 NaOH.
- of ammonia contains 0.01 mol/dm^3 NH_3
- has an H_3O^+ concentration of 10^{-2} mol/dm^3
- has a hydroxide concentration of $10^{-12} \text{ mol/dm}^3$
- of acetic acid contains 0.01 mol/dm^3 CH_3COOH .

Question **8**

Not yet answered

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Which substance is the oxidation agent in the following reaction: $\text{MnO}_2 + 4 \text{HCl} = \text{MnCl}_2 + \text{Cl}_2 + 2 \text{H}_2\text{O}$

Select one:

- Cl_2
- MnCl_2
- HCl
- H_2O
- MnO_2

Question **9**

Not yet answered

Marked out of 1.00

How many lead ions are contained in 2 moles of lead dioxide whose formula is PbO_2 ?

Select one:

- $18 \cdot 10^{23}$ pieces
- $1.2 \cdot 10^{24}$ pieces
- $2 \cdot 96500$ pieces
- 2 pieces
- 4 pieces

Question **10**

Not yet answered

Marked out of 1.00

Which of the following substances has the lowest melting point?

Select one:

- methanol
- methane
- acetone
- methanoic acid
- methyl acetate

Question **11**

Not yet answered

Marked out of 1.00

Which of the following molecules are polar?

Select one:

- F₂
- CCl₄
- NH₃
- CO₂
- SO₃

Question **12**

Not yet answered

Marked out of 1.00

Which of the following metals do not liberate H₂ gas from diluted HNO₃?

Select one:

- Zn
- Fe
- Cu
- K
- Mg

Question **13**

Not yet answered

Marked out of 1.00

Which substances are each other's constitutional (structural) isomers?

Select one:

- formic acid and acetic acid
- acetic acid and acetone
- dimethyl ether and formic acid
- ethanol and dimethyl ether
- acetone and ethanol

Question **14**

Not yet answered

Marked out of 1.00

How many moles of KOH can be found in 500 cm³ of 0.5 mol/dm³ KOH solution?

Select one:

- 1.0 mol
- 2.50 mol
- 0.025 mol
- 0.10 mol
- 0.25 mol

Question **15**

Not yet answered

Marked out of 1.00

How many moles of NaCl can be formed when 0.5 mol of sodium reacts with 2.5 mol of chlorine gas? $2 \text{ Na} + \text{Cl}_2 = 2 \text{ NaCl}$

Select one:

- 3 mol
- 5mol
- 1.25 mol
- 1 mol
- 0.5 mol

Question **16**

Not yet answered

Marked out of 1.00

0.4 mol of ammonia is dissolved in 150 g of water. What is the percent by mass (m/m) % composition of the solution? The molar mass of NH_3 is 17 g/mol.

Select one:

- 0.27 % (m/m)
- 4.34 % (m/m)
- 7.42 % (m/m)
- 4.53 % (m/m)
- 17 % (m/m)

Question **17**

Not yet answered

Marked out of 1.00

Which of the following compounds would liberate one mole of hydrogen gas when two moles of it reacts with two moles of sodium?

Select one:

- acetone
- propane
- formic acid
- butanone
- methane

Question **18**

Not yet answered

Marked out of 1.00

A pH value smaller than 7 would be shown by 1.0 mol/dm^3 solution of

Select one:

- potassium sulphate
- glucose
- sodium acetate
- ammonia
- ammonium chloride

Question **19**

Not yet answered

Marked out of 1.00

The rate of chemical reaction

Select one:

- always decreases with decreasing pressure
- increases with decreasing pressure
- can be increased by using a catalyst
- decreases with increasing concentrations
- is never changed with increasing pressure

Question **20**

Not yet
answered

Marked out of
1.00

Copper reacts with concentrated sulphuric acid. Which of the following statements is false?

Select one:

- A redox reaction occurs
- Reduction of sulphuric acid occurs
- Gas evolution occurs
- Oxidation of copper occurs
- SO_3 is formed

◀ Mathematics - Sample test (hidden)

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