

?Q1: Which of the following is a strong electrolyte in aqueous solution

- A. HF
- B. NH₃
- C. CH₃COOH
- D. H₂O
- E. AgNO₃

?Q2: Which of the following ions is correctly paired with its name using the Stock system

- A. Fe²⁺ → iron(III) ion
- B. Cu⁺ → copper(II) ion
- C. Sn⁴⁺ → tin(IV) ion
- D. Pb²⁺ → lead(IV) ion
- E. Fe³⁺ → iron(II) ion

?Q3: What is the correct formula of chromium(III) oxide

- A. Cr₂O₃
- B. CrO₂
- C. CrO₃
- D. Cr₃O₂
- E. Cr₂O₄

?Q4: The molar mass of calcium nitrate, Ca(NO₃)₂, is approximately

- A. 62 g/mol
- B. 102 g/mol
- C. 164 g/mol
- D. 238 g/mol
- E. 310 g/mol

?Q5: How many molecules are in 0.25 mol of CO₂

- A. 1.2×10^{23}
- B. 6.0×10^{23}
- C. 3.0×10^{23}
- D. 1.5×10^{23}
- E. 4.5×10^{23}

?Q6: A compound contains 40.0% C, 6.7% H, and 53.3% O. What is its empirical formula

- A. CHO
- B. CH₂O
- C. C₂H₄O₂
- D. C₂H₂O
- E. C₃H₆O₃



Q7: For the reaction: $2\text{HCl} + \text{Zn} \rightarrow \text{ZnCl}_2 + \text{H}_2$

?If 0.50 mol of Zn reacts with 0.60 mol of HCl, which is the limiting reactant

- A. HCl
- B. Zn
- C. Both are limiting
- D. Neither reacts
- E. Cannot be determined

?Q8: Which net ionic equation represents the neutralization of HNO_2 with NaOH

- A. $\text{H}^+ + \text{OH}^- \rightarrow \text{H}_2\text{O}$
- B. $\text{HNO}_2 + \text{Na}^+ \rightarrow \text{NaHNO}_2$
- C. $\text{HNO}_2 \rightarrow \text{H}^+ + \text{NO}_2$
- D. $\text{HNO}_2 + \text{OH}^- \rightarrow \text{NO}_2^- + \text{H}_2\text{O}$
- E. $\text{Na}^+ + \text{OH}^- \rightarrow \text{NaOH}$

?Q9: What is the oxidation number of chlorine in ClO_3

- A. +7
- B. +1
- C. +3
- D. -1
- E. +5

Q10: When solutions of 0.0500 M BaCl_2 and 0.0300 M Na_2SO_4 are mixed in equal volumes, a precipitate forms. Which statement is correct

- A. Ba^{2+} is the limiting ion and all BaSO_4 precipitates completely
- B. SO_4^{2-} is the limiting ion and Ba^{2+} will remain in solution
- C. Both ions are present in equal stoichiometric amounts, so no precipitate forms
- D. BaSO_4 is soluble, so no reaction occurs
- E. Both ions are in excess, so the solution remains electrically neutral and unchanged

Answer

Question

E

Q1

C

Q2

A

Q3

C

Q4

D

Q5

B

Q6

A

Q7

D

Q8

E

Q9

B

Q10

