

(Choose and mark the correct answer in the Answer Sheet)

A1- Which of the following is a precipitate?

- a- $KI_{(aq)}$ b- $PbI_2(s)$ c- H_2O d- $PbNO_3(aq)$

A2- Which of the following is a polar covalent bond?

- a- Na b- Cl_2 c- NaCl d- HCl

A3- In a neutralization reaction, an acid usually reacts with _____.

- a- a gas b- a base c- a precipitate d- water

A4- The following reaction: $Zn_{(s)} + Fe^{2+}_{(aq)} \rightarrow Zn^{2+}_{(aq)} + Fe_{(s)}$ is _____.

- a- oxidation-reduction reaction b- acid-base reaction c- precipitation reaction d- none

A5- The following equation: $H^+(aq) + OH^-(aq) \rightarrow H_2O(l)$ is _____ equation.

- a- molecular b- spectator c- net ionic d- none

A6- Which of the following aqueous solutions can conduct electricity?

- a- $(CH_3)_2O$ b- $C_6H_{12}O_6$ c- NaCl d- none

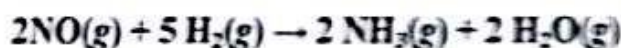
A7- The oxidation state of "N" in " NH_3 " is _____.

- a- (-1) b- (+3) c- (+1) d- (-3)

A8- Which of the following is the least electronegative element?

- a- carbon b- nitrogen c- francium d- iodine

A9- Ammonia (NH_3) can be synthesized by the reaction:



Starting with 86.3 g NO and 25.6 g H_2 , find the limiting reactant?

- a- H_2 b- NH_3 c- NO d- H_2O

A10- To what volume should you dilute 0.2 L of 15.0 M KI solution to obtain 3.0

- a- 1.0 L b- 10.0 L c- 1.0 mL d- 0.1 mL

A11- Which of the following bonds have the least bond length?

- a- Cl-Cl b- Br-Br c- F-F d- I-I

A12- Which of the following has the highest bond energy?

- a- $N=O$ b- $N-N$ c- $N \equiv N$ d- $N=N$

- A13- Give the name of PbCl_4 .
 a- lead (V) chloride b- lead (VI) chloride c- lead (IV) chloride d- lead (II) chloride
- A14- Give the name of NI_3 .
a- nitrogen triiodide b- mononitrogen iodide c- nickel triiodide d- none
- A15- Find molecular formula for " $\text{C}_2\text{H}_3\text{O}$ " which has a molar mass of 86.09 g/mol?
 a- CHO b- $\text{C}_4\text{H}_6\text{O}_2$ c- $\text{C}_4\text{H}_8\text{O}_3$ d- C_2HO
- A16- When the following equation is balanced; the coefficient "a" is _____.

$$\text{CH}_4(g) + 2 \text{O}_2(g) \rightarrow \text{CO}_2(g) + a \text{H}_2\text{O}(g)$$

a- 2 b- 5 c- 1 d- 4
- A17- The name of $\text{Cr}_2\text{O}_7^{2-}$ ion is _____.
 a- chromium b- chromes c- chromate d- dichromate
- A18- Give the chemical formula for ammonium nitrate.
a- NH_4NO_3 b- Al_2NO_3 c- NH_4NO_2 d- AlNO_2
- A19- What is the name of $\text{HI}_{(aq)}$?
 a- hydrochloric acid b- hydroiodic acid c- hydrofluoric acid d- hydrobromic acid
- A20- Which of the following is an atomic element?
 a- H_2O b- F_2 c- KNO_3 d- Xe
- A21- The formula for the compound that forms between calcium and oxygen is
 a- NaO b- CaO c- CaO_2 d- Ca_2O
- A22- What is the empirical formula for CCl_4 ?
 a- C_2Cl_8 b- CCl c- CCl_4 d- C_4Cl
- A23- Calculate the mass percent composition of Cl in CCl_2F_2 .
a- 58.64% b- 12.22% c- 60.05% d- 18.64%
- A24- What is the percent yield of the product if the actual yield was 2.65 g and theoretical yield was 4.55 g?
 a- 67.42% b- 57.17% c- 58.24% d- 50.12%
- A25- What is the molarity (mol/L) of 2.0 mol NaOH in 2.0 L H_2O ?
 a- 0.08 mol/L b- 1.0 mol/L c- 0.10 mol/L d- 0.04 mol/L

Good Luck

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D1- How many grams of HCl required to prepare a 1 L of 1 M HCl?
a- 6.0 g b- 36.5 g c- 22.7 g d- 44.4 g

D2- Give the chemical formula for lithium dichromate.
a- BaCl₂ b- Li₂Cr₂O₇ c- Na₂Cr₂O₇ d- Li₂SO₄

D3- Calculate the mass percent composition of sulfur (S) in Al₂(SO₄)₃.
a- 28.07% b- 42.22% c- 50.05% d- 88.12%

D4- If 0.1 L of 0.25 M NaOH is diluted to 0.3 L, what is the final concentration of diluted solution?
a- 0.083 M b- 0.053 M c- 0.063 M d- 0.073 M
M₁V₁ = M₂V₂
0.1 × 0.25 = 0.3 × M₂
M₂ = 0.083 M

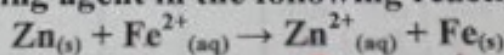
D5- What is the empirical formula for C₆H₁₂O₆?
a- C₃H₆O₃ b- CH₂O c- CH₃O d- CHO

D6- What is the percent yield of the product if the actual yield was 6.65 g and the theoretical yield was 8.55 g?
a- 97.42% b- 87.17% c- 77.78% d- 50.12%
 $\frac{6.65}{8.55} \times 100 = 77.78\%$

D7- Give the name for FeSO₄.
a- iron (II) sulfate b- iron (III) sulfate c- iron thiosulfate d- iron (II) sulfide

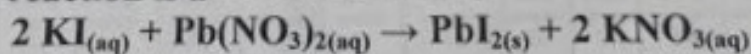
D8- Determine the name of HF (aq).
a- hydrochloric acid b- hydroiodic acid c- hydrofluoric acid d- hydrobromic acid

D9- Determine the reducing agent in the following reaction.



a- Fe_(s) b- Fe⁺² c- Zn_(s) d- FeCl₂

D10- The following reaction is a _____.



a- precipitation reaction b- acid-base reaction c- oxidation-reduction reaction d- none

D11- Which of the following is a molecular element?

a- Xe b- I₂ c- NaNO₃ d- H₂O

D12- Which of the following is an ionic compound?

a- NO₂ b- Na⁺ c- S₈ d- LiCl