

## Exam 1 Revision

1- The SI unit of **Mass** is

- A. Second
- B. Mole
- C. Candela
- D. **Kilogram**

2- The SI prefixes *Pico*- represents:

- A.  **$10^{-12}$**
- B.  $10^{12}$
- C.  $10^3$
- D.  $10^9$

3- convert  $1 \times 10^4$  *centigram* to *kilogram*:

- A.  $1 \times 10^{-3}$
- B.  $1 \times 10^3$
- C.  $1 \times 10^9$
- D.  **$1 \times 10^{-1}$**

4- How many liters are there in  $3 \times 10^4 \text{ m}^3$ ?

- A.  $3 \times 10^4 \text{ L}$
- B. 3 L
- C.  $3 \times 10^{-1} \text{ L}$
- D.  **$3 \times 10^7 \text{ L}$**

5- What temperature is  $-60 \text{ }^\circ\text{F}$  when converted to degrees Celsius?

- A. **-51.1**
- B. 51.1
- C. 333
- D. 213

6- A solid ball has a mass of 50 grams and a volume of  $20 \text{ cm}^3$ . What is the density?

- A.  $2.5 \text{ g/cm}^3$
- B.  $0.4 \text{ g/cm}^3$
- C.  $100 \text{ g/cm}^3$
- D.  $20 \text{ g/cm}^3$

7- How many neutrons are there in an atom of uranium whose mass number is 235?

- A. 92
- B. 143
- C. 235
- D. 238

8- An atom of the isotope Calcium-42, consists of how many protons, neutrons, and electrons (p , n, e)

- A. 20p, 42n, 20e
- B. 20p, 22n, 20e
- C. 20p, 22n, 22e
- D. 20p, 20n, 20e

9- I<sup>-</sup> consists of how many protons, and electrons? (p = proton, e = electron)

- A. 53 p, 53 e
- B. 54 p, 54 e
- C. 53 p, 54 e
- D. 53 p, 52 e

10- Which one of the following is a diatomic molecule?

- A.  $\text{B}^{3+}$
- B. NaCl
- C. He
- D.  $^{14}\text{C}$

11- Which one of these species is an ion?

A.  $\text{Zr}^{4+}$

B. NaCl

C.  $^{19}\text{F}$

D. Fe

12- Which of the following elements is chemically similar to oxygen?

A. Sulfur

B. calcium

C. iron

D. nickel

13- The Stock system name for CuO is

A. copper monoxide.

B. copper oxide.

C. copper(II) oxide.

D. copper(I) oxide.

14- The correct name for  $\text{NI}_3$  is

A. Nitrogen triiodide

B. Nitrogen triiodine.

C. Nitrogen iodide

D. Nitrogen(III) triiodide

15- How many molecules are there in 3 g of  $\text{NH}_3$ ?

A.  $1.081 \times 10^{-23}$

B. 23.00

C. 4

D.  $1.061 \times 10^{23}$

16- How many atoms are there in 1.90 moles of cadmium Cd?

- A.  $3.07 \times 10^{24}$
- B.  $1.14 \times 10^{24}$
- C.  $6.02 \times 10^{23}$
- D.  $9.59 \times 10^{22}$

17- How many atoms of carbon are in 2.5 mol of  $C_2H_6O$ ?

- A.  $3.01 \times 10^{24}$  atoms C
- B.  $3.01 \times 10^{-24}$  atoms C
- C.  $1.5 \times 10^{20}$  atoms C
- D.  $5.0 \times 10^{24}$  atoms C

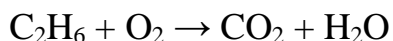
18- Determine the empirical formula of a compound with the following composition by mass: 48.0 % C, 4.0 % H and 48.0 % O.

- A.  $C_2H_2O_3$
- B. CHO
- C.  $C_4H_4O_3$
- D.  $CHO_3$

19- What is the molecular formula of a compound has  $[C_5H_{12}N_2]$  empirical formula and has a molar mass of 300 g/mol

- A.  $C_{15}H_{36}N_6$
- B.  $C_{10}H_{12}N_4$
- C.  $C_5H_{12}N_2$
- D.  $C_{15}H_{36}N_2$

20- What is the coefficient of O<sub>2</sub> when the following equation is properly balanced with the smallest set of whole numbers?



- A. 14
- B. 4
- C. 2
- D. 7

21 - What volume of 2.50 M KMnO<sub>4</sub> solution is needed to prepare 300 mL of 0.350 M KMnO<sub>4</sub>?

- A. 3 ml
- B. 42 ml
- C. 101 ml
- D. 55 ml

22- What is the molecular mass of potassium nitrate?

- A. 101.1
- B. 90
- C. 95.5
- D. 70

23- convert 3.2 *gigameter* to *decimeter*:

- A.  $3.2 \times 10^{10}$
- B.  $3.2 \times 10^8$
- C.  $3.2 \times 10^{-10}$
- D.  $3.2 \times 10^{-8}$

24- How many cubic meters are there in  $9.0 \text{ cm}^3$  :

- A.  $9.0 \times 10^6$
- B.  $9.0 \times 10^{-6}$
- C.  $9.0 \times 10^{-2}$
- D.  $9.0 \times 10^{-5}$

25- Which of the following elements is most likely to be a good conductor of electricity?

- A. Si
- B. O<sub>2</sub>
- C. Ar
- D. Mg

26- The formula for calcium phosphate is

- A. CaPO<sub>4</sub>
- B. Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>
- C. Ca<sub>2</sub>(PO<sub>4</sub>)<sub>3</sub>
- D. Ca<sub>3</sub>P<sub>2</sub>

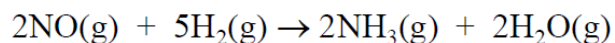
27- The correct name for Li<sub>2</sub>S is

- A. Lithium sulfide
- B. Dilithium monosulfide
- C. Lithium (II) sulfide
- D. Lithium (I) sulfide (II)

28- a noble gas is an element of group Number

- A. 1A
- B. 2A
- C. 7A
- D. 8A

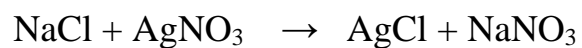
29- Ammonia, NH<sub>3</sub>, can be synthesized by the following reaction:



Starting with 86.3 g NO and 25.6 g H<sub>2</sub>. Which reagent is the limiting reagent and find the theoretical yield of ammonia in grams.

- A. NO limiting; 86 g NH<sub>3</sub>
- B. H<sub>2</sub> limiting; 49.0 g NH<sub>3</sub>
- C. NO limiting; 49.0 g NH<sub>3</sub>
- D. H<sub>2</sub> limiting; 25 g NH<sub>3</sub>

30- when 55 g NaCl mixed with 40g AgNO<sub>3</sub> and 30.5 g AgCl formed. What is the %yield of AgCl ?



A. 90%

B. 76%

C. 55%

D. 23%