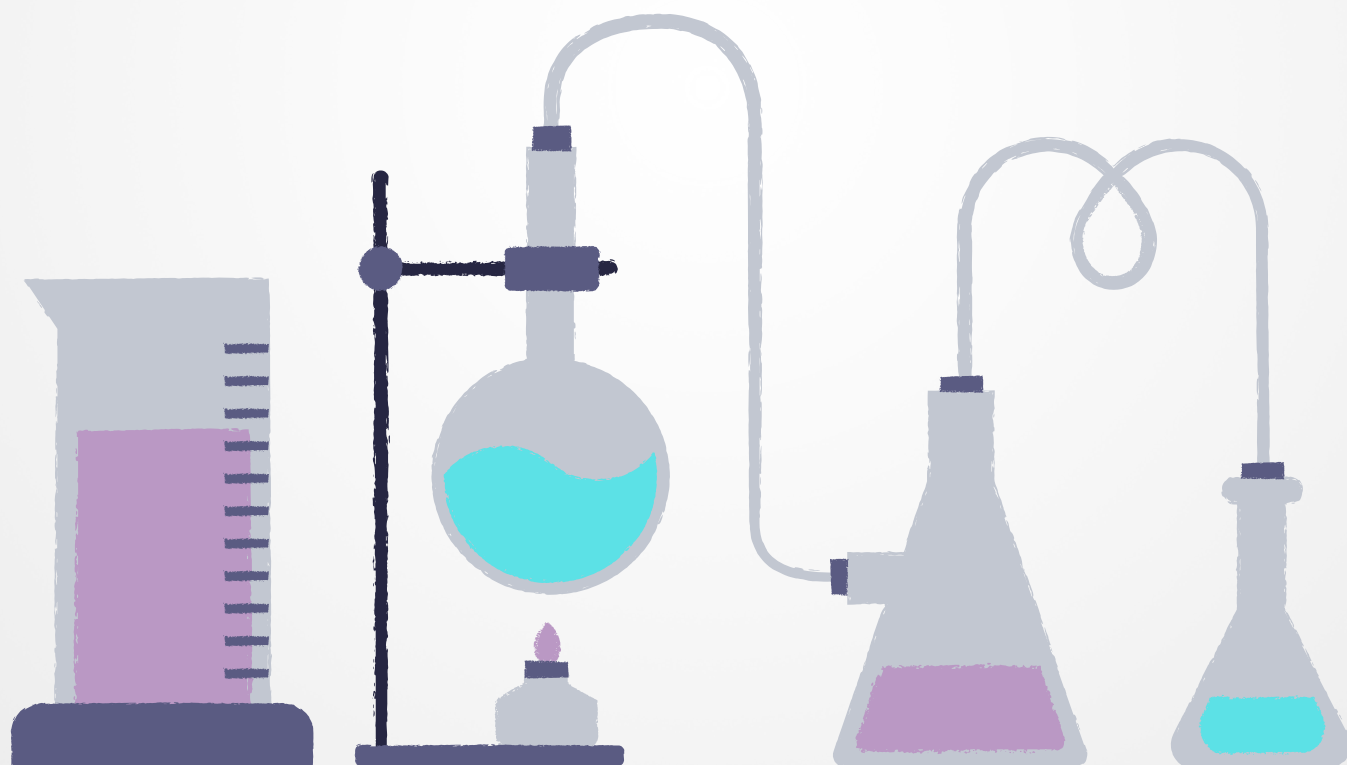




CHEMISTRY

FIRST EXAM 021



Done By : Rand Al-Atiyat

1. If matter is uniform throughout and cannot be separated into other substances by physical processes, but can be decomposed into other substances by chemical processes, it is called a:

- A) heterogeneous mixture**
- B) element**
- C) Homogeneous mixture**
- D) compound**
- E) mixture of elements**

2. Give the correct number of significant figures for the following mathematical operation ($2.50 - .100$)/ 1.10 :

- A) 2.2**
- B) 2.**
- C) 2.18**
- D) 2.182**
- E) 2.1818**

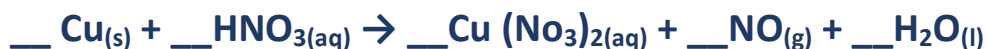
3.Convert 1000. f/hr to m/s? ($1\text{ ft} = 0.3048\text{ m}$ / $1\text{ hr}=3600\text{ s}$) :

- A) 0.007060**
- B) 0.02450**
- C) 0.08467**
- D) 0.00106**
- E) 0.01270**

4. The name of the following compound V_2O_2 is :

- A) vanadium (III) oxide
- B) vanadium oxide
- C) vanadium (II) oxide
- D) vanadium (I) trioxide
- E) divanadium trioxide

5. What the coefficient of HNO_3 , when the following equation is properly balanced with the smallest set of whole



- A) 3
- B) 8
- C) 6
- D) 12
- E) 4

6. How many moles of Na_2SO_4 are contained in a 35.0 g sample of this substance ?

- A) 0.292 mol
- B) 0.990 mol
- C) 0.278 mol
- D) 2.16 mol
- E) 0.246 mol

7. 2.50 g of $C_7H_6O_3$ (138.12 g/mol) is reacted with 10.31 g of CH_3OH (32.04 g/mol) according to the following reaction

$C_7H_6O_3 + CH_3OH \rightarrow C_8H_8O_3 + H_2O$, the yield of $C_8H_8O_3$:

- A) 46.1%
- B) 32.4%
- C) 75.0%
- D) 71.3 %
- E) 23.05%

8. what is the mass of one atom of zinc in grams ? ($N_A = 6.02 \times 10^{23}$)

- A) 6.35×10^{22}
- B) 3.20×10^{22}
- C) 5.89×10^{22}
- D) 1.09×10^{22}
- E) 4.05×10^{22}

9. An organic compound contains by mass its composition is 68.85% C , 4.95% H and 26.2% O , and its molecular weight is 122.12 g/mol . what is its molecular formula ?

- A) $C_8H_6O_2$
- B) $C_2H_2O_2$
- C) $C_{18}H_{20}O_4$
- D) $C_{20}H_{12}O_2$
- E) $C_{18}H_{30}O_2$

10. How many moles of C_3H_8 that contain 3.17×10^{25} of hydrogen atoms ? ($N_A = 6.02 \times 10^{23}$).

- A) 8.22 mol**
- B) 6.58 mol**
- C) 1.03 mol**
- D) 3.09 mol**
- E) 9.73 mol**

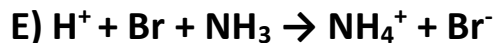
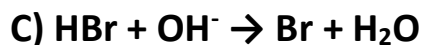
11. which one of the following substance is weak electrolyte ?

- A) Ne**
- B) NaOH**
- C) NH_3**
- D) $\text{C}_8\text{H}_{12}\text{O}_2$**
- E) CH_3OH**

12. Which of the following is an oxidation-reduction reaction ?

- A) $\text{CaCl}_2 (\text{aq}) + \text{FeSO}_4 (\text{aq})$**
- B) $\text{Fe}_{(\text{s})} + \text{H}_2\text{SO}_4 (\text{aq})$**
- C) $\text{NaOH}_{(\text{aq})} + \text{HC}_2\text{H}_5\text{O}_2 (\text{aq})$**
- D) $(\text{NH}_4)_2\text{SO}_4 (\text{aq}) + \text{CaCl}_2 (\text{aq})$**
- E) $\text{Mg} (\text{NO}_3)_2 (\text{aq}) + \text{CSBr}_{(\text{aq})}$**

13. The net ionic equation for the reaction between aqueous NH_3 and HBr is :



14. An excess of Na_2CO_3 was added to a 100 ml . sample of the water containing Pb ions . The mass of PbCO_3 (267.0 g/mol) that precipitated was 0.1443 g . what was the mass of Pb^{2+} (207.2 g/mol) in the original sample ?

A) 0.1220 g

B) 11.80 g

C) 0.3855 g

D) 0.001443 g

E) 185.1 g

15. If you have 25.0 ml of 13.5 M HNO_3 solutions , what is the final concentration when diluted to 500 ml ?

A) 0.270 M

B) 1.48 M

C) 0.958 M

D) 0.439 M

E) 0.675 M

16. A uniform matter that is a combination of two or more substances is considered to be:

- A) heterogeneous mixture**
- B) element**
- C) homogeneous mixture**
- D) compound**
- E) mixture of elements**

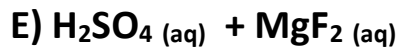
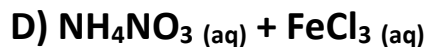
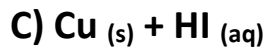
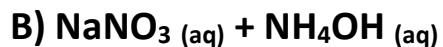
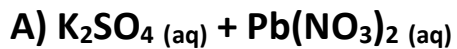
17. A board that is 9.80 inches long and 7.21 inches wide (1 inch = 5.54 cm) then the area of the board in cm^2 :

- A) 465 cm^2**
- B) 409 cm^2**
- C) 296 cm^2**
- D) 329 cm^2**
- E) 119 cm^2**

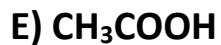
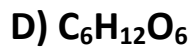
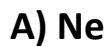
18. The correct formula for chromium (IV) hypochlorite is :

- A) $\text{Cr}(\text{ClO}_3)_4$**
- B) $\text{Cr}(\text{ClO})_4$**
- C) $\text{Cr}(\text{ClO}_2)_4$**
- D) $\text{Cr}(\text{ClO}_4)_4$**
- E) CrCl_4**

19. which of the following is a precipitation reaction ?



20. which one of the following substance is strong electrolyte ?



ANSWERS

1	D
2	C
3	C
4	A
5	B
6	E
7	A
8	D
9	A
10	B

11	C
12	B
13	D
14	A
15	E
16	C
17	A
18	B
19	A
20	B

GOOD LUCK 