

Course No: DMEC 1303
Course Title: General Chemistry-
Final Exam
Date: 20/05/2013
No. of Questions: (8)
Time: 2 hours
Using Calculator (Yes)

University of Palestine



Final Exam
2012/2013

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Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)
Total Grade (60)

I. Define the following: (10 Marks)

1) Reducing Agent

2) Ionization energy

3) Weak base

4) Reduction

5) Isotopes

6) Osmotic Pressure

7) Reversible Reaction

8) Super saturated Solution

9) Diffusion

10) Molecular Formula

II. Answer with True or False (10 Marks)

1. () Elements tend to have the same electronic configuration that is of the noble gases to achieve maximum stability.
2. () covalent bond is sharing a pair of electrons or more between two elements.
3. () Melting point of the ionic compounds is less than that of covalent compounds.
4. () Ionization energy needed to unchain electron from the 4th shell is less than that it will be needed in 3rd shell.
5. () The solution boils when the vapor pressure of the solution is equal to the atmospheric pressure.
6. () In solution, when we increase the temperature we have a low vapor pressure
7. () Attractive forces between molecules in solids are less than that of either liquids and gases.
8. () Metals are easily oxidized
9. () Electro negativity of F is more than Br
10. () Nucleus contains electrons, neutrons & protons.

III. Choose the most appropriate answer (10 marks)

1. The vapor pressure of a volatile liquid comparing with a non volatile one is:
 - a. Lower
 - b. Equal
 - c. Higher
 - d. None of the above
2. The boiling point of a pure solvent comparing with that of a solid dissolved in this solvent is :
 - a. Lower
 - b. Equal
 - c. Higher
 - d. None of the above
3. Membrane which is semipermeable enter molecules :
 - a. Bigger size
 - b. Different size
 - c. Smaller size
 - d. None of the above
4. The solution boils when a vapor pressure:
 - a. Vapor pressure of the solution is higher than the atmospheric pressure.
 - b. Vapor pressure of the solution is equal to the atmospheric pressure.
 - c. Vapor pressure of the solution is lower than the atmospheric pressure.
 - d. None of the above

5. Molarity of 2 grams of NaOH in 100 ml solution is :
 - a. 0.5 M
 - b. 5 M
 - c. 2.5 M a.w.tNa=23 g. a.w.tH=1 g.
 - d. 0.4 M a.w.tO=16 g.
6. How many cm^3 are in 0.33 dm^3 :
 - a. 33 cm^3
 - b. 3cm^3
 - c. 3.3 cm^3
 - d. 330 cm^3
7. Distribute electrons of the element X in terms of orbit number only” Atomic number of X=16” :
 - a. $1^2 2^4 3^{10}$
 - b. $1^4 2^4 3^4 4^4$
 - c. $1^2 2^8 3^6$
 - d. $1^6 2^4 3^6$
8. The Ratio of moles of C in the following compound CCl_4 is :
 - a. 0.4
 - b. 0.2
 - c. 0.8
 - d. 0.6
9. What volume needed of acid substance with molarity of 18 M to give solution with 0.4 M in 250 ml of that solution :
 - a. 4 ml
 - b. 5.5 liter
 - c. 5.5 ml
 - d. 0.018 liter
10. Which of the following is correct formula :
 - a. Na_2CO_3
 - b. CO_3Na_2
 - c. CNaO_3
 - d. None of the above

IV. Find the oxidation number of the underlined element in these compounds

(5 mark)

1. HOCL -----

2. IF_5 -----

3. Fe3O_4 -----

4. BaMnO_4 -----

5. $\text{Hg}_2\text{CL_2}$ -----

V. What is the types of bonding are in these compounds or ionic groups (5 mark)

1. Na_2CO_3 (-----).
2. N_2 (-----).
3. $(\text{NO}_3)^{-1}$ (-----).
4. LiOH (-----).
5. NaCl (-----).

VI. Compare between the following ionic compound & covalent compound (5 marks)

	Ionic Compounds	Covalent Compounds
1. Melting Point		
2. Conductivity		
3. Solubility		
4. Strength of Bond		
5. Electronegativity		

VII. What is the type of these reactions (5 marks)

1. $\text{CuSO}_4 + \text{Mg}(\text{OH})_2 \longrightarrow \text{MgSO}_4 + \text{Cu}(\text{OH})_2$ (-----).
2. $2 \text{NaHCO}_3 \longrightarrow \text{Na}_2\text{O}_{(s)} + 2\text{CO}_{2(g)} + \text{H}_2\text{O}$ (-----).
3. $2\text{Cu} + \text{O}_2 \longrightarrow 2\text{CuO}$ (-----).
4. $\text{Pb}(\text{CH}_3\text{COO})_2 + 2\text{KI} \longrightarrow \text{PbI}_{2(s)} + 2\text{K}(\text{CH}_3\text{COO})$ (-----).
5. $\text{Mg} + 2\text{HCl} \longrightarrow \text{MgCl}_{2(s)} + \text{H}_{2(g)}$ (-----).

VIII. Solve the following question (10 marks)

Freshly exposed aluminum surfaces react with oxygen to form a tough aluminum oxide coating that protects the metal to form further corrosion

The reaction is

a.w.tAl=26 g.

a.w.tO=16 g.



a. How many grams of O₂ are required to react with 0.3 Mole of Aluminum

b. How many grams of Al₂O₃ produced if 12.5 grams of O₂ are completely react with Aluminum

**End of Questions
Good Luck**