



Philadelphia University
Faculty: Science
Department: Basic sciences

General chemistry 10212101
SECOND EXAM

2Exam time 60 min.

Date:02 /05/2016

Name :

Student No.:

Section (الشعبة) :

Professor Name:

Question No.	1	2	3	4	5	6	7	8	9	10
Answer										

1 H 1.008																	2 He 4.003
3 Li 6.941	4 Be 9.01											5 B 10.81 1	6 C 12.01 1	7 N 14.00 7	8 O 15.99 9	9 F 18.99 8	10 Ne 20.18
11 Na 22.98 9	12 Mg 24.30 5											13 Al 26.98 2	14 Si 28.08 6	15 P 30.97 4	16 S 32.06 6	17 Cl 35.45 3	18 Ar 39.94 8
19 K 39.09 8	20 Ca 40.08	21 Sc 44.95 6	22 Ti 47.88	23 V 50.94 2	24 Cr 51.99 6	25 Mn 54.93 8	26 Fe 55.84 7	27 Co 58.93 3	28 Ni 58.69	29 Cu 63.54 6	30 Zn 65.39	31 Ga 69.72 3	32 Ge 72.61	33 As 74.92 2	34 Se 78.96	35 Br 79.90 4	36 Kr 83.8
37 Rb 85.46 8	38 Sr 87.62	39 Y 88.90 6	40 Zr 91.22 4	41 Nb 92.90 6	42 Mo 95.94	43 Tc 98	44 Ru 101.0 7	45 Rh 102.9 1	46 Pd 106.4 2	47 Ag 107.8 7	48 Cd 112.4 1	49 In 114.8 2	50 Sn 118.7 1	51 Sb 121.7 5	52 Te 127.6	53 I 126.9	54 Xe 131.2 9
55 Cs 132.9	56 Ba 137.3 3	57 La 138.9 1	72 Hf 178.4 9	73 Ta 180.9 5	74 W 183.8 5	75 Re 186.2 1	76 Os 190.2 3	77 Ir 192.2 2	78 Pt 195.0 8	79 Au 196.9 7	80 Hg 200.5 9	81 Tl 204.3 8	82 Pb 207.2	83 Bi 208.9 8	84 Po 209	85 At 210	86 Rn 222
87 Fr 223	88 Ra 226.0 2	89 Ac 227.0 3	104 Rf 261	105 Ha 262	106 Sg 263	107 Ns 262	108 Hs 265	109 Mt 266									

QUASTION ONE (10 Points)

1- How many atoms are in 54 g of **Ga**?

A- 4.66×10^{23}

B- 4.44×10^{24}

C- 4.00×10^{23}

D- 4×10^{21}

2- What is the mass in kg of one **Mn** atom?

A- 9.11×10^{-23}

B- 9.11×10^{-24}

C- 9.11×10^{-25}

D- 9.11×10^{-26}

3- Calculate the number of grams **Fe** in 50 g of **Fe₂O₃**?

A- 29

B- 35

C- 55

D- 59

4- How many grams of hydrogen molecules **H₂** will be formed, if **15** grams of **Mg** reacted completely with excess amount of **HCl**?



A- 1.6 g

B- 0.61 g

C- 0.41 g

D- 0.31 g

5- How many grams of Nickel **Ni** are there in 50 mmol of Ni?

A- 3.913 g

B- 30.91 g

C- 0.003 g

D- 2.93 g

6- Which one of the following substances is strong electrolyte?

A- CH₃OH

B- HBr

C- C₆H₁₂O₆

D- NH₃

7- All the following sulfate compounds are insoluble **except**:

A- CaSO₄

B- SrSO₄

C- BeSO₄

D- BaSO₄

8- What is the Oxidation Number for Platinum **Pt** in **(PtF₄)⁻²**?

A- +4

B- +3

C- +2

D- +1

9- How many milliliters of 8.4 M HCl solution required to prepare 20 ml of 4.2 M HCl solution?

A- 25 ml

B- 23 ml

C- 12.5 ml

D- 10 ml

10- Calculate the mass of NaOH compound needed to prepare 300 ml of 5.5 M NaOH solution?

A- 55 g

B- 60 g

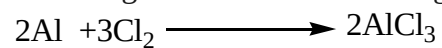
C- 66 g

D- 75 g

QUASTION Two (10 Points)

1- What is the empirical formula for a compound containing 38.8% carbon, 16.2% hydrogen and 45.1% nitrogen? **(2.5 Points)**

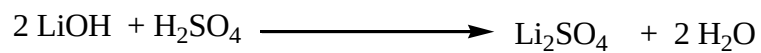
2- If 1.0 g of **Al** reacted with 5.0 g of **Cl₂** to produce **AlCl₃**. **(2.5 Points)**



A) - Calculate the number of grams of **AlCl₃** formed?

B) Assume if the actual yield was 1.2 g of **AlCl₃**, Calculate the percentage yield?

3- If 20 ml of 1.9 M LiOH solution are required to neutralize 35 ml of H₂SO₄ solution. What is the concentration of the H₂SO₄ solution in Molarity? **(2.5 Points)**



4- A sample of 0.8764 g of an ionic compound contain bromide ion **Cl⁻** is dissolved in water then excess of **AgNO₃** added to solution to form 0.965 g **AgCl**, what is the percent by mass of **Cl⁻** in the original sample? **(2.5 Points)**