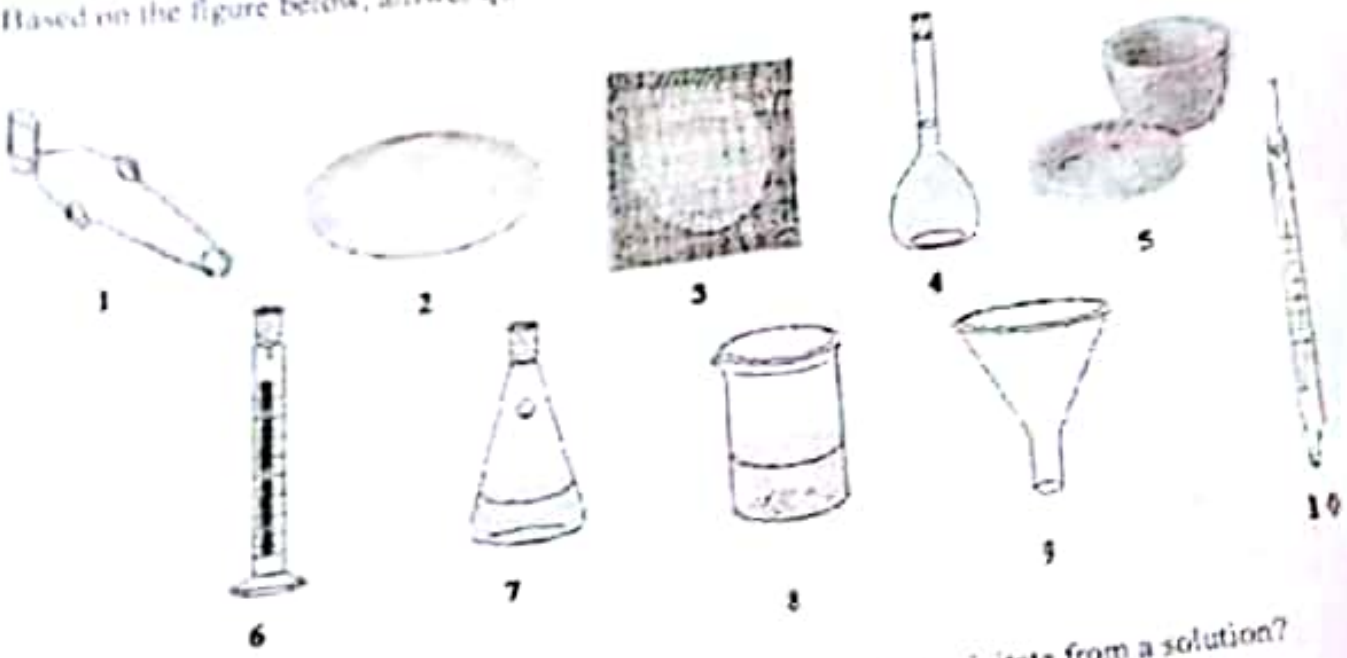
** An aqueous solution of a 0.9600 g mixture of solid salt Na_2SO_4 and $BaCl_2.2H_2O$ produces 0.2810 g of $BaSO_4$ as a precipitate. It is experimentally found that the supernatant solution contains barium ions (Ba^{2+}) [MM of Na_2SO_4 = 142.0; $BaSO_4$ = 233.4; $BaCl_2.2H_2O$ = 244.3 g/mol]. Accordingly, answer questions 11 and 12 below?

11. What is the limiting reactant?
A) $BaSO_4$ B) Na_2SO_4 C) NaCl D) $BaCl_2.2H_2O$

12. The number of moles and the mass of the limiting reactant are
A) 2.406×10^{-3} mole and 0.294 g B) 2.406×10^{-3} mole and 0.343 g
C) 1.203×10^{-3} mole and 0.294 g D) 1.203×10^{-3} mole and 0.171 g

Based on the figure below, answer questions 13 – 15 that follow: (3x1=3 points)



13. Which of the above equipments is used in the separation of a precipitate from a solution?
A) 9 B) 6 C) 3 D) 2 E) 1

14. Which of the following equipments is used to measure most accurate volume of solution?
A) 5 B) 6 C) 7 D) 8 E) 10

15. The correct names of equipments number 4 and 5 respectively (حسب الترتيب) are:
A) crucible with lid and volumetric flask B) erlenmeyer flask and crucible with li
C) volumetric flask and crucible with lid D) erlenmeyer flask and beaker.
E) graduated cylinder and crucible with lid

End of Exam

4. What is the purpose of using wire gauze equipment in the laboratory?
A) to distribute the heat over the surface of container B) to run a chemical reaction
C) to measure volume of solution D) to separate a precipitate from a solution
E) to collect a precipitate

*** Four test tubes, numbered as 1, 2, 3 and 4. Each contains one of the aqueous solutions Na_2SO_4, $BaCl_2$, and Na_2CO_3. The observations appeared in the table below are noticed. Answer questions 5 - 7 below?

Test tube Numbers	*Observation*
1 + 2	White precipitate
2 + 3	Gas evolution
3 + 4	Nothing.
1 + 4	White precipitate
2	Litmus paper turns red

5. Test tube number 1 contains:
A) Na_2SO_4 B) Na_2CO_3 C) $BaCl_2$ D) H_2SO_4

6. Test tube number 4 contains:
A) Na_2CO_3 B) Na_2SO_4 C) $BaCl_2$ D) H_2SO_4

7. Test tube number 3 contains:
A) $BaCl_2$ B) Na_2SO_4 C) H_2SO_4 D) Na_2CO_3

8. Which one of the following reactions generates CO_2 gas?
A) HCl and NaHCO$_3$ B) H_2SO_4 and NH_4Cl C) NaCl and
D) Na_2CO_3 and NaHCO$_3$ E) H_2SO_4 and Na_2SO_4

9. The mass percent of water in the hydrated salt $AB.xH_2O$ is 20.65 %. What is the salt? (MM of H_2O = 18.02 g/mole, and anhydrous AB = 208.0 g/mole).
A) $AB.2H_2O$ B) $AB.3H_2O$ C) $AB.4H_2O$
D) $AB.5H_2O$ E) $AB.7H_2O$

10. When methane gas is burned on a Bunsen burner with sufficient amount of oxygen will be.
A) hot nonluminus yellow flame and CO_2 gas.
B) hot luminus blue flame and CO_2 gas + $H_2O_{(g)}$.
C) hot nonluminus blue flame and CO_2 gas + $H_2O_{(g)}$.
D) luminus yellow flame and CO_2 and CO gases + $H_2O_{(g)}$.
E) nothing happen

4. What is the purpose of using wire gauze equipment in the laboratory ?
A) to distribute the heat over the surface of container
B) to run a chemical reaction
C) to measure volume of solution
D) to separate a precipitate from a solution
E) to collect a precipitate

*** Four test tubes, numbered as 1, 2, 3 and 4. Each contains one of the aqueous solutions Na_2SO_4, $BaCl_2$, and Na_2CO_3. The observations appeared in the table below are noticed. Answer questions 5 - 7 below?

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1 + 2	White precipitate
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5. Test tube number 1 contains:
A) Na_2SO_4
B) Na_2CO_3
C) $BaCl_2$
D) H_2SO_4

6. Test tube number 4 contains:
A) Na_2CO_3
B) Na_2SO_4
C) $BaCl_2$
D) H_2SO_4

7. Test tube number 3 contains:
A) $BaCl_2$
B) Na_2SO_4
C) H_2SO_4
D) Na_2CO_3

8. Which one of the following reactions generates CO_2 gas?
A) HCl and $NaHCO_3$
B) H_2SO_4 and NH_4Cl
C) NaCl and Na_2CO_3
D) Na_2CO_3 and $NaHCO_3$
E) H_2SO_4 and Na_2SO_4

9. The mass percent of water in the hydrated salt $AB.xH_2O$ is 20.65 %. What is the formula salt? (MM of H_2O = 18.02 g/mole, and anhydrous AB = 208.0 g/mole)
A) $AB.2H_2O$
B) $AB.3H_2O$
C) $AB.4H_2O$
D) $AB.5H_2O$
E) $AB.7H_2O$

10. When methane gas is burned on a Bunsen burner with sufficient amount of oxygen, the flame will be:
A) hot nonluminus yellow flame and CO_2 gas
B) hot luminus blue flame and CO_2 gas + $H_2O_{(g)}$
C) hot nonluminus blue flame and CO_2 gas + $H_2O_{(g)}$
D) luminus yellow flame and CO_2 and CO gases + $H_2O_{(g)}$
E) nothing happen

19- The mole ratio of anhydrous salt to water salt is:

a) 5: 1 b) 7: 1 c) 1: 5 d) 1: 7

20- The % H_2O by mass in the hydrated salt:

a) 44.08 % b) 24.49 % c) 26.11 % d) 55.92 %

21- The observation obtained from a mixture of sodium hydroxide (NaOH) and ammonium chloride (NH_4Cl) is:

a) white precipitate formed b) no reaction

c) gas without odor formed d) gas with odor evolved

22- The mass of a beaker is 5.944 g. After 5.00 mL of an alcohol is pipette into the beaker, the combined mass is 9.891 g. the density of the alcohol is:-

a) 1.189 g/ml b) 0.600 g/mL c) 0.789 g/ml d) 1.267 g/ml

***According to the following data answer questions (23 to 25)**

A 0.875-g mixture of the solid salt Na_2SO_4 [M.M.142 g./mole] and $BaCl_2.2H_2O$ [244.3 g/mole] forms an aqueous solution with 2.45×10^{-4} moles of $BaSO_4$ precipitate. Experimental test revealed that the supernatant contain SO_4^{2-}.

23- The mass percent of $BaCl_2.H_2O$ in the mixture:

a) 93.2% b) 6.8% c) 94.2% d) 5.8%

24- To reduce losing of the finely divided precipitate $BaSO_4$, through the filtration process, you must:

a) increase the mass of reactant b) digest the precipitate

c) used a fine porosity filter paper for filtering the precipitate d) (b and c) are correct

25- The limiting reactant is :

a) $BaCl_2.2H_2O$ b) Na_2SO_4 c) NaCl d) $BaSO_4$

26- The glass ware is clean if the following final rinse:

a) Water droplet adhere to the glass b) no water droplet adhere to the glass

c) Washing with tap water d) visually

27- Which of the following techniques is used for separation of liquid from solid:

a) Titration b) Filtration c) Decantation d) Boiling

Part 2 (10%): Answer each of the following statements with True (T) or False (F)

1- ( ) Elements are arranged in the periodic table in order of increasing atomic radii.

2- ( ) HCl solution spoiled on your skin, flush it with NaOH solution.

3- ( ) To prevent eye injury in a laboratory, always wear safety glasses .

4- ( ) The hottest part of the flame is at the top of the flame.

5- ( ) Excess chemicals (not used), could be returned to the reagent bottle.

6- ( ) Dirty crucible is cleaned with 6M HNO3, wash with distilled water, dry in the oven.

7- ( ) Blow out the solution remaining in the pipette tip after delivery.

8- ( ) All used chemicals in experiments are discard in a special bottle.

9- ( ) Withdraw the liquid into the pipet with the aid of a rubber bulb.

10- ( ) When SO_2 gas is dissolved in water , the resulting solution is acidic.

For the experiment, acids and bases, five unlabeled test tubes (1, 2, 3, 4 and 5), each test tube contains one of the following substances and chemicals in random order
tap water, vinegar, NaCl solution, unboiled deionized water, 1.0×10^{-4} M NaOH

Table1: Universal indicator pH color chart

Red	Orange	Yellow	Green	Dark green	Blue	Purple

Using table 1 and the following observations to identify these substances

- test tube 1 gives yellow-orange color
- test tube 2 gives green color
- test tube 3 gives purple color
- test tube 4 gives dark green color
- test tube 5 gives red color

Answer the following questions (8-11)

8- Test tubes 1 and 3 contain

a) tap water , 1.0×10^{-4} M NaOH
b) unboiled deionized water , 1.0×10^{-4} M NaOH
c) tap water , vinegar
d) vinegar , 1.0×10^{-4} M NaOH
e) unboiled deionized water , NaCl solution

9- test tubes 2, 4 and 5, in that order, contain

a) NaCl solution, tap water, 1.0×10^{-4} M NaOH
b) NaCl solution, tap water, vinegar
c) vinegar, tap water, 1.0×10^{-4} M NaOH
d) 1.0×10^{-4} M NaOH, tap water, vinegar
e) unboiled deionized water, vinegar, tape water

10- A dilute aqueous solution of ammonia(NH_3) is expected to give the color

a) green
b) yellow-orange
c) dark green
d) red
e) blue

11- What is the pH of 1.0×10^{-2} M aqueous HCl solution?

a) 1.0×10^{-2}
b) 2
c) 1.0×10^{-12}
d) 12
e) 14

12- Which of the following set contains: **an alkali metal, a metalloid, a transition metal, and a Noble gas** in that order?

a) Mg, Si, Cr, I
b) Na, Ge, Fe, Ar
c) Sr, Ge, S, F
d) K, Si, Ni, Cl

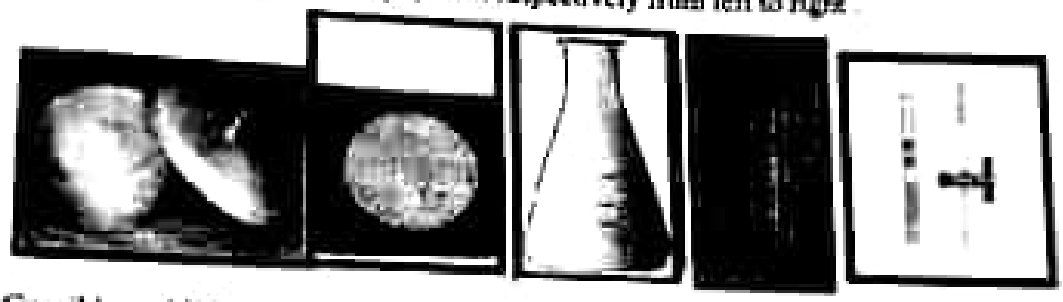
Part I (1.5 points each): Circle the best answer for each of the following questions

1- Which of the following property/ properties could be used to identify a compound
a) solubility b) boiling point c) density d) all of these

2- If a hydrated ($MX.nH_2O$) salt is excessively heated and decomposed, the reported percent of water will be:
a) decreased b) increased c) not affected d) more information needed

3- Treat chemical spills in the laboratory as follows
a) Alert your neighbors and the laboratory instructor
b) Clean up the spill as directed by the laboratory instructor.
c) If the substance is volatile, flammable , or toxic, warn everyone of the accident
d) All of above

4- The name of these laboratory equipment respectively from left to right



a) Crucible and lid, watch glass, Erlenmeyer flask, pipette and burette
b) Pipette, crucible, Beaker, Erlenmeyer flask, Thermometer and funnel
c) Crucible and lid, wire gauze, Erlenmeyer flask, pipette and burette
d) Thermometer, graduated cylinder, watch glass, wire gauze, Erlenmeyer flask, funnel

5- Boiling point of a liquid is recorded:
a) When the bubbles cease to escape and just before the liquid re-enters the capillary tube.
b) When bubbles are slowly escaping from the capillary tube.
c) When the bubbles cease to escape and after the liquid re-enters the capillary tube.
d) None of these

6- Which of the following is correct about the reactivity of Zn, Mg and Cu with 3M HCl ?

a) Mg > Zn > Cu b) Zn > Mg > Cu c) Mg > Cu > Zn d) Cu > Zn > Mg

7- Which of the following reactions is unlikely to occurred :

a) $2I^- + Br_2 \rightarrow$ b) $2Br^- + Cl_2 \rightarrow$

c) $Cl_2 + 2I^- \rightarrow$ d) $2Cl^- + I_2 \rightarrow$

5. The boiling points of liquids X, Y, Z and W, respectively, are 176, 82, 100 and 78 °C. Which of them could we use water bath to determine its boiling point?

A) X (B) Y and W C) Y and Z D) Z and W

6. Which one of the following reactions generates CO_2 gas?

A) H_2SO_4 and NH_4Cl B) NaCl and Na_2CO_3

(C) H_2SO_4 and Na_2CO_3 D) Na_2CO_3 and $NaHCO_3$

7. 7.50 mL of alcohol are pipetted into a beaker of mass of 8.916 g. The combined mass of alcohol and the beaker was 14.837 g. What is the density of alcohol?

(A) 0.789 g/mL B) 0.991 g/mL

C) 1.188 g/mL D) 0.837 g/mL

* When 2.914 g sample of a hydrated calcium sulfate salt, $CaSO_4$, was heated in a crucible. After heating, a reproducible mass of 2.304 g of anhydrous calcium sulfate was obtained (MM of H_2O = 18.02; $CaSO_4$ = 136.1 g/mole). Accordingly, answer questions 8 and 9 below?

8. What is the mass percent of water in the hydrated calcium sulfate salt?

A) 26.9 % B) 79.1 % C) 3.4 % (D) 20.9 %

9. What is the mole ratio of water to the anhydrous salt?

A) 2:1 (B) 3:1 C) 1:1 D) 4:1

** An aqueous solution of a 0.960 g mixture of solid salt Na_2SO_4 and $BaCl_2.2H_2O$ produces 1.203×10^{-3} moles of $BaSO_4$ as a precipitate. It is experimentally found that the supernatant solution contains SO_4^{2-} ions. (MM of Na_2SO_4 = 142.0; $BaCl_2.2H_2O$ = 244.3 g/mol). Accordingly, answer questions 10 and 11 below?

10. What is the limiting reactant?

A) $BaSO_4$ B) $BaCl_2.2H_2O$ C) NaCl (D) Na_2SO_4

11. The number of moles and the mass of the limiting reactant are:

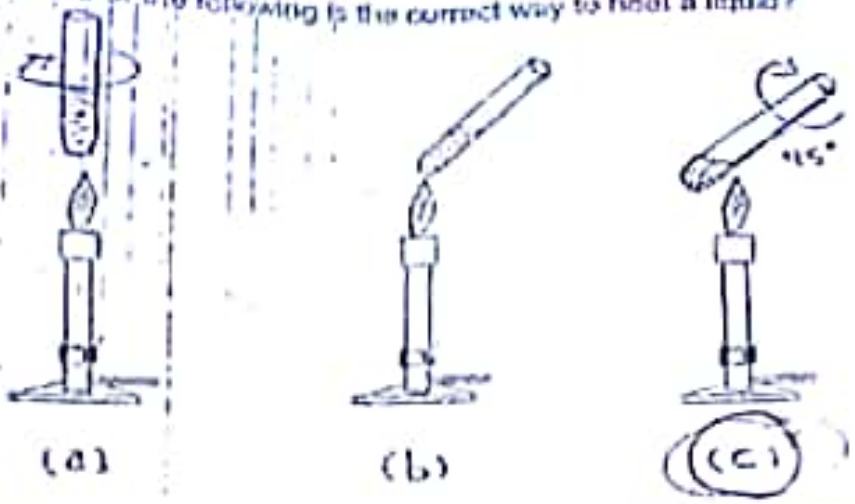
A) 2.406×10^{-3} and 0.171 g B) 2.406×10^{-3} and 0.343 g

(C) 1.203×10^{-3} and 0.294 g (D) 1.203×10^{-3} and 0.250 g

Question 2

(4 pts) Circle the correct letter/answer.

1. Which one of the following is the correct way to heat a liquid?



(a) (b) (c)

2. Which one of the following figures represents the best way to dry a hydrated salt?

a. b. c.

Question 3. (True & False)

(10pts) Write True (T) if the statement is True & False (F) if the statemen False.

1. F Flammable liquids could be evaporated by using Bunsen burne source of heat

2. T Pipets, Burettes, Erlenmeyer flasks and Graduated Cylinders considered as a volumetric glassware.

Mu'tah University
General Chemistry Laboratory (109)
Midterm Exam

Student Name: ...
I. A: ...
Date & Time of your Lab: ...
Date: 24 / 12/2016

Part I. Read the following questions and answers as True or False (8x0.5 = 4 points)

_____ 1. A dirty crucible can be cleaned with 6M H_2O.

_____ 2. Most laboratory balances in the *general chemistry* laboratory can measure the mass of a substance to less than 0.01 g.

_____ 3. The formula of the anhydrous salt of calcium sulfate is $MgSO_4$.

_____ 4. Use a spatula to transfer chemicals from a reagent bottle.

_____ 5. The hottest part of the flame is the top of the inner cone.

_____ 6. To avoid waste in the use of chemicals, always return the unused portions directly to the bottle.

_____ 7. If your skin is burned by a flame, immediately treat the affected area by covering it with a medical cream.

_____ 8. A pipette should be rinsed several times with the liquid or solution before it is finally filled.

Part II. *This part consists of 15 multiple choice questions* (Total Score = 21 points)
Circle the best answer of the Following:-
(Questions 1-12 (12 x 1.5 = 18 points)

The density of solid (X) is 2.70 g/ml and that of solid (Y) is 1.80 g/mL. If equal masses of both solids are transferred to two separate graduated cylinders, each containing 10 mL of water.
Which of the following is the correct answer?
A) the volume of water rose is unchanged.
B) solid (X) will displace more volume of water as solid (Y) does.
C) solid (X) will displace larger volume of water than solid (Y) does.
D) solid (Y) will displace larger volume of water than solid (X) does.

2. Which of the following is **not** an intensive property of matter?
A) density B) volume C) boiling point
D) redox E) melting point

3. The following four liquids: X, Y, Z and I have boiling points 115, 62, 78, and 56 °C, respectively. Of these liquids could its boiling point be measured by water bath?
A) X B) Y C) Z D) I E) all except X

Ma'in University
General Chemistry Laboratory (105)
Midterm Exam

Student Name .....
T. A: .....
Day & Time of your Lab: .....
Date: 24/11/2016

Part I. Read the following questions and answers as True or False (5 of 5 = 4 points)

..... 1. A dirty crucible can be cleaned with 6M HNO_3

..... 2. Most laboratory balances in the general chemistry laboratory can measure the ma a substance to less than 0.01 g

..... 3. The formula of the anhydrous salt of calcium sulfate is $MgSO_4$

..... 4. Use a spatula to transfer chemicals from a reagent bottle

..... 5. The hottest part of the flame is the top of the inner cone

..... 6. To avoid waste in the use of chemicals, always return the unused portions directly to the bottle

..... 7. If your skin is burned by a flame, immediately treat the affected are covering it with a medical cream.

..... 8. A pipette should be rinsed several times with the liquid or solution before it is f filled.

Part II. *This part consists of 15 multiple choice questions* (Total Score = 21 points)

Circle the best answer of the following:-

Questions 1-12 (12 x 1.5 = 18 points)

1. The density of solid (X) is 2.70 g/mL and that of solid (Y) is 1.80 g/mL. If equal masses of t solids are transferred to two separate graduated cylinders, each containing 10 mL of water. Which of the following is the correct answer?

A) the volume of water remains unchanged.
B) solid (X) will displace some volume of water as solid (Y) does.
C) solid (X) will displace larger volume of water than solid (Y) does.
D) solid (Y) will displace larger volume of water than solid (X) does.

2. Which of the following is **not** an intensive property of matter?

A) density
B) volume
C) boiling point
D) color
E) melting point

3. The following four liquids: X, Y, Z, and T have boiling points 115, 62, 78, and 56 °C, respectiva these liquids could its boiling point be measured by water bath?

A) X
B) Y
C) Z
D) T
E) all except X

Ma'sab University
General Chemistry Laboratory (109)
Midterm Exam

Student Name: ..... (اسم الطالب حسب الهوية)
ID: .....
Day & Time of your Lab: .....
Date: 24 / 1 /2016

Part I. Read the following questions and answers as True or False (5x0.5 = 4 points)

1. A dirty test tube can be cleaned with 6M HNO_3
2. All of laboratory balances in the general chemistry laboratory can measure the mass of a substance to less than 0.01 g
3. The formula of the anhydrous salt of calcium sulfate is $MgSO_4$
4. Use a spatula to transfer chemicals from a reagent bottle
5. The hottest part of the flame is the top of the inner cone
6. To avoid waste in the use of chemicals, always return the unused portions directly to the bottle
7. If your skin is burned by a flame, immediately treat the affected area by covering it with a medical cream
8. A pipette should be rinsed several times with the liquid or solution before it is finally filled

Part II. *This part consists of 15 multiple choice questions* (Total Score = 21 points)
Circle the best answer of the Following:-
Questions 1-12 (12 x 1.5 = 18 points)

1. The density of solid (X) is 2.70 g/mL and that of solid (Y) is 1.80 g/mL. If equal masses of both solids are transferred to two separate graduated cylinders, each containing 10 mL of water. What of the following is the correct answer?
A) The volume of water remains unchanged.
B) Solid (X) will displace more volume of water as solid (Y) does.
C) Solid (X) will displace larger volume of water than solid (Y) does.
D) Solid (Y) will displace larger volume of water than solid (X) does.

2. Which of the following is **not** an intensive property of matter?
A) density B) volume C) boiling point
D) reactivity E) melting point

3. The following four liquids X, Y, Z, and T have boiling points 115, 62, 78, and 96 °C, respectively of these liquids would its boiling point be measured by water bath?
A) X B) Y C) Z D) T E) all except X

4. What is the purpose of using wire gauze equipment in the laboratory?
A) to distribute the heat over the surface of container
B) to run a chemical reaction
C) to measure volume of solution
D) to separate a precipitate from a solution
E) to collect a precipitate

*** Four test tubes, numbered as 1, 2, 3 and 4. Each contains one of the aqueous solutions Na_2SO_4, $BaCl_2$, and Na_2CO_3. The observations appeared in the table below are noticed. Answer questions 5 - 7 below?

Test tube Numbers	Observation
1 + 2	White precipitate
2 + 3	Gas evolution
1 + 4	Nothing
1 + 4	White precipitate
2	Litmus paper turns red

5. Test tube number 1 contains:
A) Na_2SO_4 B) Na_2CO_3 C) $BaCl_2$ D) H_2SO_4

6. Test tube number 4 contains:
A) Na_2CO_3 B) Na_2SO_4 C) $BaCl_2$ D) H_2SO_4

7. Test tube number 3 contains:
A) $BaCl_2$ B) Na_2SO_4 C) H_2SO_4 D) Na_2CO_3

8. Which one of the following reactions generates CO_2 gas?
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D) Na_2CO_3 and $NaHCO_3$ E) H_2SO_4 and Na_2SO_4

9. The mass percent of water in the hydrated salt $AB.xH_2O$ is 20.65 %. What is the
salt? (MM of H_2O = 18.02 g/mole, and anhydrous AB = 208.0 g/mole)
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A) hot nonluminus yellow flame and CO_2 gas.
B) hot luminus blue flame and CO_2 gas + $H_2O_{(g)}$.
C) hot nonluminus blue flame and CO_2 gas + $H_2O_{(g)}$.
D) luminus yellow flame and CO_2 and CO gases + $H_2O_{(g)}$.
E) nothing happen

Mu'tah University
General Chemistry Laboratory (1901)
Midterm Exam

Student Name .....
T. A/ .....
Day & Time of your Lab: .....
Date: 24/11/2016

Part I. Read the following questions and answers as True or False (1×8.5 = 4 points)

..... 1. A dirty crucible can be cleaned with 6M H_2O.

..... 2. Most laboratory balances in the general chemistry laboratory can measure the mass of a substance to less than 0.01 g.

..... 3. The formula of the anhydrous salt of calcium sulfate is $MgSO_4$.

..... 4. Use a spatula to transfer chemicals from a reagent bottle

..... 5. The hottest part of the flame is the top of the inner cone

..... 6. To avoid waste in the use of chemicals, always return the unused portions directly to the bottle

..... 7. If your skin is burned by a flame, immediately treat the affected area covering it with a medical cream.

..... 8. A pipette should be rinsed several times with the liquid or solution before it is filled

Part II. *This part consists of 15 multiple choice questions* (Total Score = 21 points)
Circle the best answer of the following:-
Questions 1-12 (12 x 1.5 = 18 points)

1. The density of solid (X) is 2.70 g/mL and that of solid (Y) is 1.80 g/mL. If equal masses of the solids are transferred to two separate graduated cylinders, each containing 10 mL of water. Which of the following is the correct answer?
A) the volume of water remains unchanged.
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2. Which of the following is **not** an intensive property of matter?
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D) color E) melting point

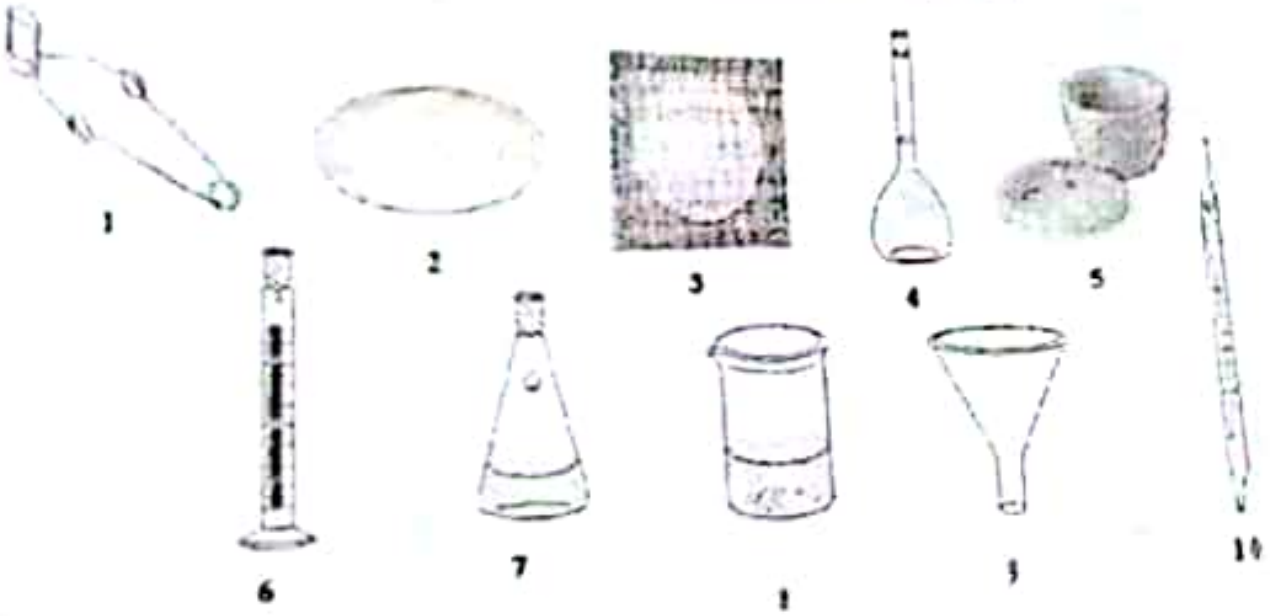
3. The following four liquids: X, Y, Z, and T have boiling points 115, 62, 78, and 56 °C, respectively. Which of these liquids could its boiling point be measured by water bath?
A) X B) Y C) Z D) T E) all except X

** An aqueous solution of a 0.9600 g mixture of solid salt Na_2SO_4 and $BaCl_2.2H_2O$ produces 0.2810 g of $BaSO_4$ as a precipitate. It is experimentally found that the supernatant solution contains barium ions (Ba^{2+}) [MM of Na_2SO_4 = 142.0, $BaSO_4$ = 233.4, $BaCl_2.2H_2O$ = 244.3 g/mol]. Accordingly, answer questions 11 and 12 below: 3

11. What is the limiting reactant?
A) $BaSO_4$ B) Na_2SO_4 C) NaCl D) $BaCl_2.2H_2O$

12. The number of moles and the mass of the limiting reactant are
A) 2.406×10^{-3} mole and 0.294 g B) 2.406×10^{-3} mole and 0.343 g
C) 1.203×10^{-3} mole and 0.294 g D) 1.203×10^{-3} mole and 0.171 g

Based on the figure below, answer questions 13 – 15 that follow: (3x1=3 points)



13. Which of the above equipments is used in the separation of a precipitate from a solution?
A) 9 B) 6 C) 3 D) 2 E) 1

14. Which of the following equipments is used to measure most accurate volume of solution?
A) 5 B) 6 C) 7 D) 8 E) 10

15. The correct names of equipments number 4 and 5 respectively (جسم الزجاج) are:
A) crucible with lid and volumetric flask B) erlenmeyer flask and crucible with l
C) volumetric flask and crucible with lid D) erlenmeyer flask and beaker.
E) graduated cylinder and crucible with lid.

End of Exam