

Practical General Chemistry 2 <sup>nd</sup> Term Exam 2020 <i>First Year Students</i>		Chemistry Department Faculty of science Damietta university
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Answer the following question:

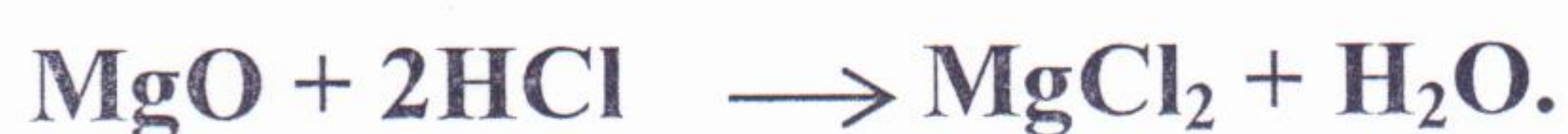
(1) In determining the molecular weight (MW) of a volatile liquid, you are provided with the data: - Pressure (P) = 760 mmHg.

- Volume (V) of condensed vapor = 200 ml.

- Temperature 100 °C, Calculate MW of the volatile liquid.

(2) A- Illustrate: Heat of formation – Acid – base indicator Neutralization reaction.

B- Determine the heat of the reaction:



When 0.4 g MgO is added to 50 ml 1M HCl and the temperature of solution raised by 4 °C. ( Specific heat = 4.18 J/g . °C , Mg=24, O=16, H=1, Cl=35.5 ).

C- Calculate the <sup>heat of</sup> formation for NH<sub>4</sub>Cl when aqueous NH<sub>3</sub> reacted with HCl, using the following reactions:



(3) A- 10 ml dil. H<sub>2</sub>SO<sub>4</sub> was titrated with 1 M NaOH, and the volume of the base consumed at the end point was 20 ml. Determine the molarity of H<sub>2</sub>SO<sub>4</sub> and strength of the acid. ( H= 1, O=16, S=32 )

B- Complete the following equations:

- i-  $\text{Na}_2\text{CO}_3 + \text{HCl} \longrightarrow \dots\dots\dots$
- ii-  $\text{Ca}(\text{OH})_2 + \text{CO}_2 \longrightarrow \dots\dots\dots$
- iii-  $\text{Na}_2\text{SO}_4 + \text{HCl} \longrightarrow \dots\dots\dots$
- iv-  $\text{KMnO}_4 + \text{H}_2\text{SO}_4 + \text{NaNO}_2 \longrightarrow \dots\dots\dots$

*Best Wishes*  
*Prof. Ahmed M. EL-Hendawy*