Practical General Chemistry 2nd Term Exam 2020 First Year Students		Chemistry Department Faculty of science Damietta university

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 ^{0}C , Calculate MW of the volatile liquid.

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

B- Determine the heat of the reaction:

$MgO + 2HCl \longrightarrow MgCl_2 + H_2O$.

When 0.4 g MgO is added to 50 ml/1M HCl and the temperature of solution raised by 4 ^{0}C. (Specific heat = 4.18 J/g . ^{0} C , Mg=24, O=16, H=1, Cl=35.5).

C- Calculate the heat of formation for NH_4Cl when aqueous NH_3 reacted with HCl, using the following reactions:

$\frac{1}{2} N_2 + \frac{3}{2} H_2 \longrightarrow NH_3(aq)$ $\Delta H = -46.4$ KJ (1)

$\frac{1}{2} H_2 + \frac{1}{2} Cl_2 \longrightarrow HCl(aq)$ $\Delta H = -167.4$ KJ (2)

$\frac{1}{2} N_2 + 2H_2 + \frac{1}{2} Cl_2 \longrightarrow NH_4Cl(aq)$ $\Delta H = -300.2$KJ (3)

(3) A- 10 ml dil.H_2SO_4 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_2SO_4 and strength of the acid. (H= 1, O=16, S=32)

B- Complete the following equations:

i- $Na_2CO_3 + HCl \longrightarrow$ .....

ii- $Ca(OH)_2 + CO_2 \longrightarrow$ .....

iii- $Na_2SO_4 + HCl \longrightarrow$ .....

iv- $KMnO_4 + H_2SO_4 + NaNO_2 \longrightarrow$ .....

Best Wishes
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