PREPARATION OF SOLUTIONS (CONCENTRATIONS)

- 1- The mw of Na_2CO_3 is : Na=23, O=16, C=12

A) 140

B) 106

C) 96

D) 100

E) 60

- Calculate the pH of a solution containing 0.1 M Na_2CO_3 and o.2 M $NaHCO_3$? K_{a2} (H_2CO_3) = 4.7 X10^{-11}

A) pH= 5

B) pH = 8

C) pH=10

Calculate the pH of a solution resulting from adding 4 mL of 0.2 M of NaOH solution to 16 mL of a buffer solution containing 0.1 M CH_3COOH

($K_a = 1.8X10^{-5}$) and 0.2 M CH_3COONa

The number of mmol of CH_3COOH

A) 0.1

B) 0.8

C) 1.6

Calculate the pH of a solution resulting from adding 4 mL of 0.2 M of NaOH solution to 16 mL of a buffer solution containing 0.1 M CH_3COOH

($K_a = 1.8X10^{-5}$) and 0.2 M CH_3COONa

The number of mmol of NaOH

A) 0.4

B) 0.8

C) 1.6

Calculate the pH of a solution resulting from adding 4 mL of 0.2 M of NaOH solution to 16 mL of a buffer solution containing 0.1 M CH_3COOH

($K_a = 1.8X10^{-5}$) and 0.2 M CH_3COONa

The number of mmol of CH_3COONa

A) 0.4

B) 0.8

C) 1.6

- 2- How many grams of Na_2CO_3 in 3 moles, (mw = 106)

A) 318

B) 0.028

C) 134

D) 201

E) 67

- 3- Calculate the normal concentration (N) of 0.1 M solution of HCl

A) 0.2 N

B) 0.3 N

C) 0.05 N

D) 0.1 N

4- The eq.wt of H_3PO_4 (mw=98) is:

A) 98

B) 49

C) 32.7

D) 196

E) 294

- 5- 2.5 g of Na_2SO_4 (mw = 106) has been dissolved in water and the volume was completed to 500 mL , calculate the followings :

The molar concentration of Na_2SO_4

A) 5

B) 500

C) 0.5

D) 0.05

Unit3: STOICHIOMETRY AND EQUILIBRIUM

The limiting reactant is:

A) present in lower of moles

B) present in higherof moles

C) present in lower of mass

D) present in lower of mass

Unit3: STOICHIOMETRY AND EQUILIBRIUM

The limiting reactant is:

A) It is comletly used up in the reaction

B) It is not comletly used up in the reaction

Unit3: STOICHIOMETRY AND EQUILIBRIUM

In chemical equilibrium:

A) rate (forward= reverse)

B) rate (forward< reverse)

C) rate (forward> reverse)

pH of strong acide and base:

A) $pH = -\log[H^+]$

B) $pH = -log\sqrt{K_a\ C_a}$

C) $pH = -log\sqrt{K_b\ C_b}$

pH of weak acide :

A) $pH = -\log [H^+]$

B) $pOH = -\log [OH^-]$

C) $pH = -log\sqrt{K_a\ C_a}$

pH of weak base:

A) $pH = -\log [H^+]$

B) $pH = -log\sqrt{K_a\ C_a}$

C) $pH = -log\sqrt{K_b\ C_b}$

K_w :

A) $K_w = [H^+] + [OH^-]$

B) $K_w = [H^+]\,[OH^-]$

C) $K_w = [H^+] - [OH^-]$

D) $K_w = \dfrac{[H^+]}{[OH^-]}$

pK_w

A) $pK_w = [H^+][OH^-]$

B) $pK_w = [H^+] + [OH^-]$

C) $pK_w = pH + pOH$

D) $pK_w = \mathrm{pH} - \mathrm{pOH}$

Calculate the pH of. 0.5 M solution of NH_4Cl ?

Kb (NH_3) = 1.75 X 10^{-5}

A) $pH = -\log [H^+]$

B) $pH = -log\sqrt{K_a\ C_a}$

C) $pH = -log\sqrt{\frac{K_w C_s}{K_b}}$

D) $pH = -log\sqrt{K_{ia}\ C_s}$

Calculate the pH of. 0.5 M solution of NH_4Cl ?

Kb (NH_3) = 1.75 X 10^{-5}

A) pH = 2.1

B) pH = 4.8

C) pH= 7

D) pH = 9.6

Calculate the pH of 0.2 M solution of $Ba(OH)_2$

A) pOH = 12.1

B) pOH = 8.9

C) pOH = 5.5

D) pOH = 0.4

- **Calculate the pH of 0.2 M solution of Ba(OH)2**

A) 9.6

B) 11.6

C) 13.6