Q1: Define

a) Standard Solution:

b) Redox Titration:

c) Indicator:

d) Titration:

Q2:What are the favorable conditions for precipitation?

Q3: Fill in The blank

1 ) If an acid contacts with your skin wash it with soap, because it will …………… the acid.

A ) Absorb.

B ) Remove.

C ) Dissolve.

D ) Neutralize.

2 ) This signs means :

   
 A ) Radioactive.

B ) Oxidizing.

C ) Toxic.

D ) Biohazard.

 A ) Radioactive.

B ) Oxidizing.

C ) Toxic.

D ) Biohazard.

3) In Gravimetric Determination of Chloride,

Wt. of precipitate = 4.23 g , wt. of filter paper = 1.33 g ,G.F = 0.247g.

The precipitation of AgCL is :

A) 0.532 g.

B) 0.247 g.

C) 0.716 g.

D) 0.689 g.

Q4: True or false

1) Hemolyzed blood or plasma will deproteinized by addition of Zinc hydroxide ( ).

2) Starch used as an indicator in determination of blood glucose( ).

3) In gravimetric analysis we do filtration after washing of the

analyte ( ).

4) The purpose of Volhard method is to determine the concentration of glucose( ).

5 ) In Mercurimetric determination of blood or urine chloride the end point is violet-blue color( ).

6 ) In Volhard method we use phenolphthalein as an indicator( ).

Good luck ; )

**Part A**

**Standardization of Sodium Hydroxide Solution**

Calculate the concentration of NaOH solution using acid-base titration.

**Procedure:**

In an Erlenmeyer Flask add:

1- 0.5 g Potassium Hydrogen Phthalate (KHP).

2- 100 ml H2O.

3- 2 drops indicator (phenolphthalein).

Titrate with NaOH until get the end point

**Part B**

**Standardization of Hydrochloric Acid Solution**

Calculate the concentration of HCL solution using acid-base titration.

**Procedure:**

In an Erlenmeyer Flask add:

1- 10 ml HCL.

2- 10 ml H2O.

3- 2 drops indicator (phenolphthalein).

Titrate with NaOH until get the end point.

**Complexometric Determination of Calcium in Milk**

Calculate the concentration of calcium in the sample.

**Procedure:**

I) Standardization:

In an Erlenmeyer Flask add:

1- 10 ml CaCO3.

2- 3 ml buffer.

3- 4 drops Mg-EDTA.

4- 1 drop EBT.

Titrate with EDTA solution until get the end point.

II) Analysis:

In an Erlenmeyer Flask add:

1- 10 ml sample.

2- 3 ml buffer.

3- 4 drops Mg-EDTA.

4- 1 drop EBT.

Titrate with EDTA solution until get the end point.

**Determination of Chloride by Volhard Method**

Calculate the concentration of chloride in the sample.

Procedure:

**I) Standardization of Potassium Thiocyanate (KSCN)**

1- 20 ml AgNO3

2- 80 ml distilled water, mix well

3- 2 ml con.HNO3, mix well

4- 2 ml Ferric ammonium sulphate, mix well

Titrate with Potassium tiocyanate solution until get the end point.

**II) Titration of unknown solution of chloride**

1- 5 ml unknown solution of chloride

2- 20 ml D.W, mix well

3- 10 ml AgNO3, mix well (note the white ppt)

4- 1 ml HNO3, mix well

5- 1 ml Ferric ammonium sulphate indicator, mix well

Titrate with Potassium thiocyanate until get the end point.