University of Salahaddin Subject: Practical A. chemistry

College of Agriculture Stage: First

Engineering science Time: 1hour

Final examination (2022-2023) Date: 10/1/2023

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**Q1 / Answer the followings: (40 Marks)**

1. Enumerate the branches of analytical chemistry?
2. Complete the following reaction:

CH3COOH (aq) + NaOH(aq)

HCl(aq) + NaOH(aq)

1. Why the pH of the sample solutions in Mohr method should be between 6.5 and 10?
2. What is precipitation titration compound?

**Q2/ (20 marks)**

1. What is the concentration of 10 ml Hcl which neutralized by 0.1 M NaoH? If you know 14 ml 0f NaoH is need for neutralize10 ml of Hcl.
2. Determine the Nolarity of solution which is 5g NaOH dissolve in 100ml of D.W.(Na=23,O=16,H=1)

**Q3/ Write (True) or (False) of the following sentences then correct the false ones:** (20 Marks)

1. The end point in precipitation titration is the point at which the indicator changes color.
2. Vinegar: is a solution composed of acetic acid, water and perhaps other substances, this solution must contain at least 4 grams of acetic acid per 100 ml solution.
3. Quantitative analysis is identify the elements or compounds present in a sample.
4. Vinegar is formed by anaerobic bacteria oxidizing grain alcohol to acetic acid and water.
5. Phenolphthalein (ph.ph) indicator colors in acidic medium is pink color and in basic medium is colorless.
6. In neutralize (acid – base ) titration a strong acid reacts with a strong base to form a solution Ph was (pH>7)
7. In chemical laboratory pipet is used for measuring temperatures.

**Q4\ Write the laboratory name of the followings : (20 Marks)**

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| [Pyrex Erlenmeyer Flask Starter Pack](http://www.carolina.com/product/crucible+cover,+porcelain,+38+mm.do?keyword=crucible&sortby=bestMatches) | Glass Stirring Rods |
| Wash Bottles |  |
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|  | [http://tbn0.google.com/images?q=tbn:X2uyS81Y3t__pM:http://www.perfectpartscompany.com/P606.jpg](http://images.google.com/imgres?imgurl=http://www.perfectpartscompany.com/P606.jpg&imgrefurl=http://www.perfectpartscompany.com/PerfectApparatusContent.htm&h=122&w=88&sz=12&hl=en&start=1&tbnid=X2uyS81Y3t__pM:&tbnh=89&tbnw=64&prev=/images?q=crucible+and+cover&gbv=2&hl=en) |

***Good Luck***

***Mrs.Sawen M. Ezzalddin Hanan F. khalil***