University of Salahaddine Subject: Analytical chemistry/practical

College of Agricultural engineering Stage: First

science

Time: 1 hour

21 /12/2022 Name:

Monthly exam Group:

**Q1/ Define of the followings: (only 3) (15 Marks)**

1. Vinegar 2. Solution 3. Qualitative analysis 4. Titration

**Q2/ A/Enumerate type of the followings: (25 Marks)**

1/ Titration

2/ Quantitative analysis

3/ Types of indicator and colors in (acid and base) medium

**B- Draw the titration apparatus and write all chemical compounds in acid- base titration**

**(15 Marks)**

**Q3/Write names of laboratory equipment’s(apparatus) (20 Marks)**

|  |  |
| --- | --- |
| Glass Stirring Rods | Pyrex® Volumetric Flask |
| Vacuum Desiccators at Rs 9325/number | Laboratory Desiccator | ID:  17850110288 | [Dropping Bottle, Glass, Squat Form, 100 mL](http://www.carolina.com/product/rubber+tubing,+amber,+1-8-in+bore,+1-32-in+wall,+10+ft.do?keyword=rubber+tubing&sortby=bestMatches) |
| [Glass Graduated Cylinders, Single Metric Scale](http://www.carolina.com/product/rubber+tubing,+amber,+1-8-in+bore,+1-32-in+wall,+10+ft.do?keyword=rubber+tubing&sortby=bestMatches)[http://tbn0.google.com/images?q=tbn:CiBjOewsvg86OM:http://www.tea.state.tx.us/student.assessment/resources/online/2006/grade8/science/images/20graphicaa.gif](http://images.google.com/imgres?imgurl=http://www.tea.state.tx.us/student.assessment/resources/online/2006/grade8/science/images/20graphicaa.gif&imgrefurl=http://www.tea.state.tx.us/student.assessment/resources/online/2006/grade8/science/8science.htm&h=327&w=257&sz=7&hl=en&start=7&tbnid=CiBjOewsvg86OM:&tbnh=118&tbnw=93&prev=/images?q=graduated+cylinder&gbv=2&hl=en) | Wash Bottles |
|  | https://upload.wikimedia.org/wikipedia/commons/thumb/9/97/Scheidetrichter_zwei_Phasen_brauner_Hintergrund.png/220px-Scheidetrichter_zwei_Phasen_brauner_Hintergrund.png |
| 1000ml,Vacuum Suction Filtration Device,1 L,Buchner Funnel Apparatus,Heavy  Wall|buchner funnel|filtration vacuumfiltration apparatus - AliExpress | [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) |

Lecturer

Dr. Sirwan Ahmed

Lecturer

Dr. Sirwan Ahmed

**Q4/**  (K=39 O=16 H=1 p=31) **(25 Marks)**

A/ Determine the weight required to prepare 0.5 M of KOH in 250 ml distilled water.

B/ prepare 3N of H3PO4 in 500 ml distilled water.

(Sp.gr= 1.69 %=85)

Good Luck

Mrs. Hanan F.khalil

Lecturer

Dr. Sirwan Ahmed

Lecturer

Dr. Sirwan Ahmed