

**Practical Assessment 1 includes:**

**Technique #2 - Use of a Pipette**

**Technique #4 – Weighing**

**Technique #5 – Use of a Bottle-Top Dispenser**

**Technique #6 – Gravity Filtration**

**Technique # 9 – Rotary Evaporator**

**Student preparation:**

Read over Techniques #2, 4, 5, 6, and 9 in the “*Demonstrations of Nine Practical Lab Techniques*” booklet.



CHEM 2204 – Chemical Laboratory Techniques

Demonstrations of  
Nine Practical Lab Techniques

Technique #1 –Use of a Burette

Technique #2 –Use of a Pipette

Technique #3 –Use of a Volumetric Flask

Technique #4 –Weighing

Technique #5 –Use of a Bottle-Top Dispenser

Technique #6 - Gravity Filtration, Vacuum Filtration

Technique #7 –Preparation of a Standard Solution

Technique #8 –Titration

Technique #9 –Rotary Evaporator

Come to your assessment at least 5 minutes early and wait outside the lab. Remember to bring:

1. Lab coat
2. Goggle
3. Pen
4. Calculator

You will be asked to draw **two** techniques from a draw box and perform the tasks given. Read over the following marking scheme for each technique so that you are prepared to answer questions related to the techniques, as well as carrying out the techniques to perform the tasks.

During the assessment, be confident and be in control, and be knowledgeable.

Good luck!

**Assessment Scheme: Maximum score = 15 points****Marking Scheme:** (marks in brackets)

U = unsatisfactory (0); S = satisfactory; (1); G = Good (2); E = Excellent (3)

**General:**

- Does not wear goggles – minus 1 point
- Does not write data directly on the datasheet in pen – minus 1 point
- Does not label glassware – minus 1 point
- You must obtain a minimum of 5 checks. Less than 5 checks means an incomplete technique – minus 1 point

<b>Technique #2 - Use of a Pipette</b>	<b>U</b>	<b>S</b>	<b>G</b>	<b>E</b>	<b>Comment</b>
Knowledge of keywords: acclimatization, meniscus, volumetric pipette, measuring pipette					
Use of pipette bulb					
Acclimatize technique					
Wiping the outside of the pipette before adjusting to the mark					
Control of pipette while adjusting the liquid level to the mark – Bring to eye level					
Dispensing technique – draining with tip touching wall of containing and waiting for 10 seconds					

**Assessment Scheme: Maximum score = 15 points**

**Marking Scheme:** (marks in brackets)

U = unsatisfactory (0); S = satisfactory; (1); G = Good (2); E = Excellent (3)

**General:**

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<b>Technique 4 - Weighing</b>	<b>U</b>	<b>S</b>	<b>G</b>	<b>E</b>	<b>Comment</b>
Knowledge of the two different methods of weighing					
Check balance is zeroed and the balance chamber is clean					
Record mass to proper number of significant figures					
Removal of weigh boat from the balance before adding sample					
Set the weigh boat on a clean surface (on Kimwipes)					
Close doors before reading mass					
Leave balance with doors closed and balance turned off					
Labeling of glassware					

**Assessment Scheme: Maximum score = 15 points**

Marking Scheme: (marks in brackets)

U = unsatisfactory (0); S = satisfactory (1); G = Good (2); E = Excellent (3)

**General:**

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<b>Technique 5 – Bottle-Top Dispenser</b>	<b>U</b>	<b>S</b>	<b>G</b>	<b>E</b>	<b>Comment</b>
Knowledge of keywords: bottle-top dispenser, accuracy of a bottle-top dispenser					
Ability to set the dispenser to the approximate volume specified					
Ensure the dispenser is free of air bubbles					
Use graduated cylinder to check preset volume					
Proper use of dispenser pump					
Record volume to proper number of significant figures.					

**Assessment Scheme: Maximum score = 15 points****Marking Scheme:** (marks in brackets)

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**General:**

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- Does not label glassware – minus 1 point
- You must obtain a minimum of 5 checks. Less than 5 checks means an incomplete technique – minus 1 point

<b>Technique 6 – Gravity Filtration</b>	<b>U</b>	<b>S</b>	<b>G</b>	<b>E</b>	<b>Comment</b>
Knowledge of keywords: name different types of filter papers, decantation, washing, purpose of tearing a small corner of the filter paper, filtrate					
Selection of proper filter paper for the funnel provided					
Folding of filter paper					
Apparatus setup – height of filter rack, position of the funnel and the beaker					
Wetting of the filter paper – should fit snugly into the funnel, should have good flow					
Decant technique					
Wash technique					
Transfer technique – proper use of rubber policeman and rinsing					

**Assessment Scheme: Maximum score = 15 points**

**Marking Scheme:** (marks in brackets)

U = unsatisfactory (0); S = satisfactory; (1); G = Good (2); E = Excellent (3)

**General:**

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- Does not label glassware – minus 1 point
- You must obtain a minimum of 5 checks. Less than 5 checks means an incomplete technique – minus 1 point

<b>Technique 9 – Rotary Evaporator</b>	<b>U</b>	<b>S</b>	<b>G</b>	<b>E</b>	<b>Comment</b>
Knowledge of the purpose of using the equipment					
Use of the circular clip in the correct orientation					
Close the air inlet valve					
Water to the aspirator on full strength					
Water to the condenser enough for circulation					
Assembly of the rotary evaporator					
Disassembly of the rotary evaporator					