

MES Asmabi College

Department of Chemistry

General Instructions for Chemistry Laboratory

General Chemistry Safety and Laboratory Rules Chemistry laboratories can be hazardous if the rules are not followed. During a chemistry course a student may handle materials which are carcinogenic, poisonous, flammable, and explosive. Some of these materials and equipment may also cause severe burns, cuts, or bruises if handled improperly or carelessly. Most accidents that occur in the chemistry laboratory are a result of carelessness, impatience, improper or unauthorized experimentation, and disregard for safety rules or proper operating procedures. In order to minimize the chances of an accident in the laboratory certain rules and regulations must be obeyed at all times when one is working or observing in a chemical laboratory. Therefore, it is not advisable for anyone to work in a laboratory without proper knowledge of the dangers involved.

Due to the inherent dangers present in a chemical laboratory exercise, it should be understood that the following rules must be obeyed to minimize the chance of an accident. The student is expected to exercise proper judgment and extreme caution at all times when working in the laboratory.

Learn and observe the safety and laboratory rules!

1. **DO NOT** perform unauthorized experiments or work in a laboratory alone.
2. Approved eye protection must be worn at all times in the laboratory. Tennessee State law requires the use of such devices. Eye protection must be splash proof chemical goggles and be approved by your instructor. If you do get a chemical in your eye rinse immediately with large quantities of water using the eye-wash stations.
3. Long hair and loose clothing must be confined while in a laboratory.
4. Appropriate clothing must be worn at all times while in the laboratory. Your legs must be completely covered below the knee by your choice of clothing. If your clothing does not meet the requirement you may choose to wear an approved laboratory coat or apron which does cover your legs to your knees.

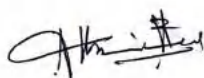
5. Closed shoes with socks must be worn at ALL times – open-toed shoes, backless shoes, sling backs, clogs, and sandals are not permitted.
6. Know the location and proper use of fire extinguishers, fire blankets, safety showers, eye wash devices, and first aid kits.
7. Before obtaining any chemicals carefully read the label on the reagent bottles.
8. Eating, smoking, and drinking are not allowed in a chemistry laboratory.
9. Thoroughly wash your hands after leaving the laboratory.
10. Use the fume hoods when toxic or irritating vapors are involved.
11. Mouth suction is never used to fill a pipette.
12. Never force glass tubing through cork or rubber stoppers without proper lubrication.
13. Never direct the open end of test tube toward yourself or anyone else.
14. Never pour water into concentrated acid.
15. Learn the proper procedure for igniting and operating a laboratory burner. Always extinguish the flame when the burner is not being used. Make sure that all flammable reagents are well removed before lighting the burner.
16. Liquid and solid waste containers must be properly used at all times.
17. Never place chemicals directly on the balance pan. Always use a proper weighing container when using a balance to weigh a chemical. Never pour chemicals directly over the balance.
18. Never return unused chemicals to their original container (unless directed to do so by the instructor).
19. Securely replace lids, caps, and stoppers after removing reagents from containers.
20. Always wipe spatulas clean before and after inserting into reagent bottles.
21. Report any accident and/or injury, however minor, to your instructor immediately.
22. Never place anything that is not directly required for the experiment on laboratory desks; other items may interfere with the experiment.

23. All personal belongings should be placed in the bookcases as you enter the laboratory.

24. Clean up any spill immediately.

25. Before leaving the laboratory, make sure your work area is clean and dry. Ensure that all gas, water, vacuum, and air valves are completely turned off.

26. Your instructor is available for any assistance you may need. Never hesitate to ask questions especially if there is any question concerning proper operating procedure. Be sure that you understand every instruction before proceeding.



Head of the Department

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Principal

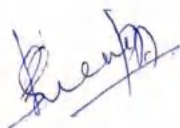
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MES ASMABI COLLEGE

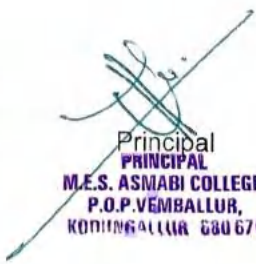
DEPARTMENT OF PHYSICS

General instructions for Physics Laboratory

1. Do not come in the lab early unless the instructor is present.
2. Do not wear loose hair or clothing around moving equipment.
3. Do not set equipment too close to the edge of the table.
4. Do not activate any circuit or apparatus until the instructor inspects it.
5. Never touch a possibly live circuit and Do not touch electrical equipment with wet hands.
6. Only use laboratory equipment for the instructional purpose for which they were intended.
7. Never look directly in the beam of a laser and light from a lamp used for the experiment.
8. All trash and waste materials should be disposed of in the proper container. Do not pour chemicals into the laboratory sink.
9. Do not short the electrical leads on any equipment.
10. Any equipment except computer not in use should be turned off.
11. Do not take apart any apparatus or piece of equipment.
12. All damaged equipment should be immediately reported to the laboratory instructor.
13. Accidents and emergencies must be immediately reported to the laboratory instructor.
14. Never remove any computer components (especially the mouse and keyboard).
15. Do not shut down or turn on (or log in) the computer unless instructed to do so by the lab instructor.
16. Leave your lab station neat, clean and organized at the end of each lab period.



Head of the Department



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DEPARTMENT OF PSYCHOLOGY

General Instructions

1. Do not enter the lab without instructor's permission
2. Conduct yourself in a responsible manner at all times in the laboratory.
3. Don't talk aloud, crack jokes, or roam around and distract other students
4. Do not eat food, drink beverages or chew gum in the laboratory
5. Do not turn on the electronic equipments without guidance
6. Before starting Laboratory work follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ask your concern teacher before proceeding with the activity.
7. Use lab equipments only under guidance, before using the equipment you must read Labels and instructions carefully. Set up and use the equipment as directed by your teacher
8. Students are not allowed to work in Laboratory alone or without presence of the teacher.
9. Replace the materials in proper place after work to keep the lab area tidy.
10. Make sure the apparatus or equipments are properly turned off/ closed.
11. Make sure the fans, lights and equipments are turned off when you leave the lab
12. Any failure / break-down of equipment must be reported to the teacher
13. Protect yourself from getting electric shock or any other potential hazards due the electronic equipments.



Head of the Department

HEAD OF THE DEPARTMENT
PSYCHOLOGY
MES ASMABI COLLEGE PVEBALLUR



Manual for Botany Laboratory

Laboratory Manual is an exercise book containing various topics as allotted in the syllabus. This provides a prospective to students for practical work in the classrooms.

By studying such manual a student becomes aware of the brief theoretical information, preparation of the sample material for study and observation, thereafter description and ultimately derivation of conclusion

Instruments usually used in Botanical Laboratory :

1. **Simple Microscope :**
2. **Light Microscope (Compound) :**

Precautions for handling microscope:

1. Clean the ocular and objective lenses with lens paper/tissue paper, and do not remove them.
2. While studying an object, learn to keep one hand on the fine focus knob and focus continuously up and down.
3. While observing any kind of preparation, do not tilt the microscope.
4. Leave the low power objective in place after finishing all the observations.
5. To examine an object, always first use the low power and then the other objectives.
6. Never allow an objective lens to strike either the stage or a slide while focusing.
7. Use always the fine adjustment with high power objective.
8. All wet-mount preparations should be pre-covered by a cover slip.
9. Avoid the habit to remove the parts of the microscope.
10. Do not use oil immersion objective without oil.
11. Diaphragm should be wide open while using oil immersion objective.

3. Weighing Balance

Precautions :

- The instrument should be kept on a vibration free support.
- Balance should not be located next to doors or windows as opening and closing gives rise to air drafts.
- Always weigh samples after closing the weighing chamber doors.
- Every time use a clean spatula of appropriate size.
- Properly clean the surface area after use.

4. Single Glass Distillation Unit :

Precautions :

- Donot operate the machine without water.
- Always maintain the water level.

5. Autoclave :

Precautions :

- ❖ Donot operate the machine without water.
- ❖ Use only distilled water.
- ❖ Always maintain the water level above the heater.
- ❖ Never sealing containers; under pressure they pose an explosion risk.
- ❖ Never opening the door to the autoclave if there is water running out the bottom.
- ❖ Clogged steam lines, equipment malfunction, or plugged drains may cause a buildup of scalding water.
- ❖ Waiting for the pressure to reach zero and the temperature is at or below 121°C before opening the door at the end of a cycle to avoid steam burns and shattered glassware. Do not stand directly in front of the door.

6. pH Meter :

Precautions : pH electrode is fragile and should not be tempted to use it as a stirring glass rod

- ♣ when adjusting pH. It needs to be calibrated daily with the help of standard buffer solutions.
- ♣ The glass electrode should not be left out of the storage solution for prolonged
- ♣ intervals as the glass membrane gets dehydrated resulting in slower response and can eventually lead to complete response failure. Glass is rapidly attacked by hydrofluoric acid so never keep the electrode in HF
- ♣ solution as it can lead to irreparable damage of the electrode. Avoid vibrations and shock.♣



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DEPARTMENT OF MASSCOMMUNICATION AND JOURNALISM

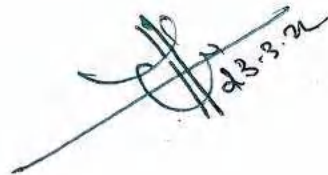
Policies Regarding the Use of the Media Lab

We ask your cooperation in helping maintain the labs by observing the policies below:

1. The Media Lab facility is operated by Mass Communication and journalism department. It is open to students currently enrolled in production courses.
2. The Media Lab is both a classroom and a lab. It is available for use during scheduled lab hours when classes are not meeting. A lab monitor will be available to assist during scheduled lab hours.
3. Lab monitors will be available during scheduled hours to assist students. They are trained in lab equipment and software.
4. Do not set equipment too close to the edge of the table. Do not activate any circuit or until the instructor inspects it.
5. Never touch a possibly live circuit and Do not touch electrical equipment with wet hands.
6. Only use laboratory equipment for the instructional purpose for which they were intended
7. Food and drink in the labs are strictly prohibited.
8. NO CELL PHONES. Please turn your cell phone or other electronic device to "vibrate. 6. You must wear headphones in the lab when others are working.
9. If you find that equipment/software is broken or not working properly, please report it the Lab Monitor on duty. Please be as specific as possible when reporting hardware or software problems.
10. Please log off computers when you are finished. Do not shut down. Do not turn POWER off to individual items.
11. Items left in the lab will be placed in the LOST and FOUND cabinet. More valuable items are held in the office.
12. All trash and waste materials should be disposed of in the proper container.
13. Do not short the electrical leads on any equipment. Do not take apart any piece of equipment. All damaged equipment should be immediately reported to the lab in charge.
14. Accidents and emergencies must be immediately reported to the laboratory instructor
15. Never remove any computer components (especially the mouse and keyboard). Do not shut down or turn on (or log in) the computer unless instructed to do so by the lab instructor.
16. Leave your lab station neat, clean and organized at the end of each lab period .




HOD: SUNAINA M. NAZAR


23-3-20

MESASMABICOLLEGE
DEPARTMENT OF AQUACULTURE

Microbiology Lab Practices and Safety Rules

1. Wash your hands with disinfectant soap when you arrive at the lab and again before you leave.
2. Absolutely no food, drinks, chewing gum, or smoking is allowed in the laboratory. Do not put anything in your mouth such as pencils, pens, labels, or fingers. Do not store food in areas where microorganisms are stored.
3. Purchase a lab coat and safety glasses, bring them to class, and use them. Alternatively, a long sleeved shirt that buttons or snaps closed is acceptable protective clothing. This garment must cover your arms and be able to be removed without pulling it over your head. Leave protective clothing in the lab and do not wear it to other non-lab areas.
4. Avoid loose fitting items of clothing. Wear appropriate shoes (sandals are not allowed) in the laboratory.
5. Keep your workspace free of all unnecessary materials. Backpacks, purses, and coats should be placed in the cubbyholes by the front door of the lab. Place needed items on the floor near your feet, but not in the aisle.
6. Disinfect work areas before and after use with 70% ethanol or fresh 10% bleach. Laboratory equipment and work surfaces should be decontaminated with an appropriate disinfectant on a routine basis, and especially after spills, splashes, or other contamination.
7. Label everything clearly.
8. Replace caps on reagents, solution bottles, and bacterial cultures. Do not open Petri dishes in the lab unless absolutely necessary.
9. Inoculating loops and needles should be flame sterilized in a Bunsen burner before you lay them down.
10. Turn off Bunsen burners when not in use. Long hair must be restrained if Bunsen burners are in use.
11. When you flame sterilize with alcohol, be sure that you do not have any papers under you.
12. Treat all microorganisms as potential pathogens. Use appropriate care and do not take cultures out of the laboratory.
13. Wear disposable gloves when working with potentially infectious microbes or samples (e.g., sewage). If you are working with a sample that may contain a pathogen, then be extremely careful to use good bacteriological technique.
14. Sterilize equipment and materials.

15. Never pipette by mouth. Use a pipetting aid or adjustable volume pipettors. [In the distant past, some lab personnel were taught to mouth pipette. This practice has been known to result in many laboratory-acquired infections. With the availability of mechanical pipetting devices, mouth pipetting is strictly prohibited.]
16. Consider everything a biohazard. Do not pour anything down the sink. Autoclave liquids and broth cultures to sterilize them before discarding.
17. Dispose of all solid waste material in a biohazard bag and autoclave it before discarding in the regular trash.
18. Familiarize yourself with the location of safety equipment in the lab (e.g., eye-wash station, shower, sinks, fire extinguisher, biological safety cabinet, first aid kit, emergency gas valve).
19. Dispose of broken glass in the broken glass container.
20. Dispose of razor blades, syringe needles, and sharp metal objects in the "sharps" container.
21. Report spills and accidents immediately to your instructor. Clean small spills with care (see instructions below). Seek help for large spills.
22. Report all injuries or accidents immediately to the instructor, no matter how small they seem.

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