

E-Content of MBOTCC-4: Practical 1 (Based on MBOTCC 1,2 & 3) (5 Credits

By Dr Tanuja, University Department of Botany, Patliputra University

MICROBIOLOGY LABORATORY: BASIC RULES AND REQUIREMENTS

Microbiology Lab Practices and Safety Rules

- Wash your hands with disinfectants when you arrive at the lab and again before you leave.
- Wear laboratory coats in the lab. Students with long hair must put up the hair.
- At the start and end of each laboratory session, students should clean their assigned bench-top area with a disinfectant solution provided. That space should then be kept neat, clean, and uncluttered throughout each laboratory period.
- Eating or drinking in the laboratory is not permitted. No mouth pipetting.
- Label everything clearly. Sterilize equipment and materials.
- Avoid loose fitting items of clothing. Wear appropriate shoes in the laboratory.
- Report any breakage of equipment to the instructor.
- Report any personal accidents such as cuts to the instructor at once.
- Turn off Bunsen burner when not in use.
- Discard all cultures and used glassware into the container labeled CONTAMINATED. (This container will later be sterilized.) Plastic or other disposable items should be discarded separately from glassware in containers to be sterilized.
- Never place contaminated pipettes on the bench top.
- When you flame sterilize with alcohol, be sure that you do not have any papers under you.
- Before beginning your laboratory exercise, wash off the bench top with the disinfectant provided. When exercises are completed, wash off the bench top again. Always wash your hands with soap and water before leaving the laboratory.
- Before leaving the laboratory, see that all the equipments are in the proper location and gas and water turned off.
- Purchase a fine point, waterproof marker and small roll of masking tape. Use them to clearly label your cultures.
- If you should spill or drop a culture or if any type of accident occurs, call the instructor immediately. Place a paper towel over any spill and pour disinfectant over the

towel. Let the disinfectant stand for 15 minutes and then clean the spill with fresh paper towels. Remember to discard the paper towels in the proper receptacle and wash your hands carefully.

- Disinfect work areas before and after use with 70% alcohol 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.

- Replace caps on reagents, solution bottles and bacterial cultures. Do not open petri dishes in the lab unless absolutely necessary.

- Cultures are not to be removed from the laboratory unless the instructor gives permission.

- Always place culture tubes (broth and slants) in the upright position in a rack or basket for incubation or disposal.

- Dispose of all solid waste materials in a biohazard bag and autoclave it before discarding in the regular trash.

- Treat all cultures as potentially pathogenic, i.e., flood areas with disinfectant if cultures are spilled, wash hands after contact and notify your instructor at once.

- Read the instructions carefully before beginning an exercise. Also, make sure you have all the materials needed for the exercise at hand before you commence the experiment. Ask the instructor for clarification of any points about which you are in doubt. Flame the inoculating loop or needle immediately before and after use. If viscous material is present on the loop or needle, dry it at the side of the flame before placing it directly in the flame.

- Laboratory note books must be kept up-to-date. Illustrations should be done when requested.

- Make sure you consult the instructor to dispose of the cultures that are not needed any longer. Remove

all labels and markings from the tubes before disposing of them; do not discard anything into the sinks.

- Please inform your instructor if you have any medical condition that could potentially affect your

safety in the laboratory (eg: diabetes, epilepsy, immunosuppression etc.). This information will help

the instructor to deal with any emergency that would arise. The information will be treated confidentially and it will not affect their ability to participate in the laboratory activities.

- Be systematic and logical. Keep a faithful record of all the experiments and observations. Update it regularly and submit it for evaluation at the end of each exercise.
- Work either using laminar air flow chamber or light the burner at least five minutes prior to making any inoculations and work near the burner.