



DEEPSHIKHA GROUP OF COLLEGES

Nurturing Talent, Empowering Futures

• STANDARD OPERATING • **PROCEDURE** FOR DEPARTMENT OF **BOTANY & ZOOLOGY**

DEEPSHIKHA COLLEGE OF TECHNICAL EDUCATION — JAIPUR —



QUALITY
EDUCATION



SCIENTIFIC
EXCELLENCE



BIODIVERSITY
CONSERVATION



RESEARCH &
INNOVATION



SAFETY &
RESPONSIBILITY

Standard Operating Procedure (SOP) Botany and Zoology Laboratory

1. Purpose

To ensure the safe, effective, and organized use of the Botany and Zoology Laboratory for teaching, research, and practical work.

2. Scope

This SOP applies to all students, faculty members, laboratory assistants, researchers, and visitors using the laboratory.

3. Responsibilities

- **Laboratory In-charge**
 - Maintain laboratory equipment and records.
 - Ensure availability of chemicals, specimens, and consumables.
 - Enforce safety protocols.
- **Faculty**
 - Supervise laboratory practical's.
 - Ensure students follow laboratory rules.
- **Laboratory Assistant**
 - Prepare materials before practical sessions.
 - Clean and maintain equipment.
 - Dispose of laboratory waste properly.
- **Students**
 - Follow laboratory safety rules.
 - Handle specimens and equipment carefully.
 - Report accidents or damaged equipment immediately.

4. Laboratory Safety

- Wear a laboratory coat and closed-toe shoes.
- Use gloves, masks, and eye protection when required.
- Do not eat, drink, or smoke in the laboratory.
- Keep work areas clean and uncluttered.
- Wash hands before leaving the laboratory.
- Report spills, injuries, or accidents immediately.
- Know the location of fire extinguishers, first aid kits, eye wash stations, and emergency exits.

5. Entry and Exit Procedure

- Enter only with permission from the instructor.
- Record attendance if required.



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- Place personal belongings in designated areas.
- Switch off electrical equipment before leaving.
- Clean the workbench and return all materials.

6. Equipment Handling

- Inspect equipment before use.
- Operate microscopes, centrifuges, incubators, autoclaves, and balances according to instructions.
- Do not attempt repairs; report malfunctions to the laboratory in-charge.
- Clean equipment after use.

7. Handling of Chemicals and Reagents

- Read labels before use.
- Use only the required quantity.
- Store chemicals according to compatibility.
- Keep containers tightly closed after use.
- Dispose of expired chemicals according to institutional guidelines.

8. Handling of Biological Specimens

- Handle preserved specimens with care.
- Use dissecting instruments safely.
- Dispose of biological waste in designated containers.
- Disinfect reusable instruments after use.

9. Waste Disposal

- Segregate waste into:
 - Biological waste
 - Chemical waste
 - Glass waste
 - General waste
- Dispose of sharps in puncture-resistant containers.
- Follow institutional and local biosafety regulations.

10. Cleaning and Housekeeping

- Clean benches before and after practical sessions.
- Sterilize work surfaces after handling biological materials.
- Store equipment and specimens properly.
- Maintain cleanliness of sinks and floors.

11. Emergency Procedures

Chemical Spill

- Inform the laboratory instructor immediately.
- Use the appropriate spill kit.
- Avoid direct contact.



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Fire

- Turn off gas and electrical supplies if safe.
- Use the appropriate fire extinguisher.
- Evacuate if necessary.

Injury

- Administer first aid.
- Report the incident.
- Seek medical attention if required.

12. Record Keeping

Maintain records for:

- Equipment maintenance
- Chemical inventory
- Specimen inventory
- Laboratory attendance
- Accident/incident reports
- Waste disposal logs

13. Good Laboratory Practices (GLP)

- Label all samples clearly.
- Record observations accurately.
- Avoid contamination of samples.
- Never remove laboratory materials without authorization.
- Respect laboratory ethics and biosafety guidelines.

14. Laboratory Closing Procedure

- Turn off electricity, water, and gas supplies.
- Clean and store equipment.
- Lock chemical and specimen storage cabinets.
- Secure laboratory doors.



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