AVIT AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY | VINAYAKA MISSION'S RESEARCH FOUNDATION (Deemed to be University under section 3 of the UGC Act 1956) | Accredited by NAAC | Approved by AICTE

DEPARTMENT BIOTECHNOLOGY

17BTCC82- CELL BIOLOGY LAB

STANDARD OPERATING PROCEDURE

Standard Operating Procedure for Operating Laminar Airflow

Name of the Lab./facility	**Molecular biology /Genetic Engineering lab**
Purpose	To describe the procedure for the operation and maintenance of the Laminar Airflow
Scope	This Standard Operating Procedure (SOP) applies to the staff and students using the Laminar Airflow in molecular biology & Genetic Engineering laboratory, Vinayaka missions' Research foundation.
Responsibility	Faculty i/c of the facility, HoD/Biotechnology

STANDARD OPERATING PROCEDURE FOR LAMINAR AIRFLOW

- Switch "ON" the mains
- Switch "OFF" U.V light
- Switch "ON" laminar air flow and light
- Check and ensure manometer reading "0" mm of water gauge before switching "ON". Check and ensure the manometer reading between 10 to 15 mm water gauge after switching "ON" the LAF and keep the record of reading
- In case the manometer reading is found out of limit, inform maintenance department for corrective action
- Clean the LAF bench with 70% IPA before use and after completion of work

PRECAUTIONS TO BE FOLLOWED

- Validate the LAF twice a year by the third party for DOP test/smoke Test for air velocity and for nonviable particle count
- Maintain U.V light burning record

HOD

DEPARTMENT BIOTECHNOLOGY

17BTCC82- CELL BIOLOGY LAB

STANDARD OPERATING PROCEDURE

Name of the Lab./facility	**Molecular biology /Genetic Engineering lab**
Purpose	To describe the procedure for the operation and maintenance of the Microscope
Scope	This Standard Operating Procedure (SOP) applies to the staff and students using the Microscope in molecular biology & Genetic Engineering laboratory, Vinayaka missions' Research foundation.
Responsibility	Faculty i/c of the facility, HoD/Biotechnology
STANDARD OPERATING PROCEDURE FOR LAMINAR AIRFLOW	
1. Ensure that the microscope and its surrounding area is clean. 2. Plug the microscope power cord in to electrical out let. 3. Turn on the microscope by rotating the illumination control knob on the bottom left side of the instrument. 4. Set the intensity of light to the lowest setting using illumination control knob. 5. Fully open the aperture diaphragm of the condenser by rotating the ring to the extreme right. 6. Using the sub stage condenser focusing knob, raise the condenser to the top of its excursion. Critical illumination only: If the condenser travel is excessive, limit the travel with the	

thumbscrew under the sub stage until the top lens of it is just below the stage surface (0.35mm)

7. Place the specimen slide on the stage.

8. Rotate the nosepiece to move the objective (40 X for dry mount and 10 X for wet mount) into working position.

9. Raise the stage by rotating the coarse adjustment knob to its positive stop. Using the fine adjustment knob, bring the specimen into sharp focus.

10. Adjust the eye tubes for inter pupillary distance and eye difference. The left eyepiece tube is focusable to compensate for refractive differences of the eyes.

11. To correctly set the eye tubes, focus on the specimen through the right eyepiece tube only. Use the fine adjustment knob while covering the left eyepiece or closing the left eye.

12. Next, focus the specimen through the left eyepiece by turning the eye tube. Cover the right eyepiece while doing this and be sure to focus with the left eye tube only, without using the focusing knob.

13. Remove an eyepiece and view the back aperture of the objective. Close the condenser aperture diaphragm and then, to obtain the full resolving power of the microscope, reopen until the diaphragm leaves just disappear from view. Replace the eyepiece. The aperture diaphragm can be adjusted to enhance contrast and/or increase the depth of focus.

14. When changing to higher power objectives, the positions of the aperture diaphragm must be reset. As magnification increases, the aperture diaphragm must be opened as required.

Cleaning and Maintenance

1. Whenever lack of contrast, cloudiness or poor definition is encountered, Clean the lower magnification objectives and optical surfaces with a lint free cloth or lens tissue moistened (not wet) with methanol.

2.	Clean the front lens with a toothpick covered with a cotton tip wetted with methanol.
3.	Avoid excessive use of solvent for cleaning.
4.	Cover the microscope always with dust cover, whenever the microscope is not in use.
5.	Wipe the bottom of Oil immersion lens of a fast absorbing tissue paper before and after using the lens.
6.	Use Xylene to clean the lens surfaces

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