1. Equipment Training Policy and Guidelines

Sequential Steps to follow

1. Put a training request for the equipment using Equipment Usage Request Module from the CEN website [Online Modules->Equipment Usage Request].

2. Trainee needs to print the Training Form uploaded on CEN website [Usage Policies->Equipment Training->Training Form] on a clean room paper or a normal paper depending on whether the equipment is located in class 1000 labs or semi-clean labs respectively.

3. Trainee should fill the hard copy of this Training Form and finish reading/viewing the reading material required for the equipment. Reading material is available in Equipment Training document which is uploaded on CEN website [Online Modules->slotbooking-> management-
>resources]. This document also mentions minimum number of runs required before authorization test could be taken. If this document is not present please contact SO and operator.

4. Once online training request is generated, trainee will be given slots for training by the OP/SO/AU. Training can be done by SO/OP/AU. Please contact the operator/SO regarding your training slots.

5. Please take signature of the trainer in the hard copy of Training Form after each run including the authorization test.

6. After each training run fill the details from the hard copy of Training Form to Online Training form located on CEN Website [Online Modules->slotbooking->management-
>tool training]. This will help your advisor know of your training progress on the equipment.

7. After all runs are done and authorization test is taken, please finish filling the Online Training Form.

8. Submit the hard copy of Training Form to Kamal Yadav or Lab Manager.

Policy Guidelines to follow

1. Trainee has to come prepared with the prescribed reading/viewing material. Trainee's knowledge on the subject may be checked by the trainer and training will be cancelled if required theoretical/operational understanding is not exhibited.

2. Please contact SO/operator if the Equipment Training Document is not uploaded for the equipment.

3. More than one training run per equipment per day is not recommended. But in emergency it may be taken.

4. The authorization test is to be taken by SO, giving complete theoretical and practical understanding of the equipment. In special cases it could be taken by operator as well with prior approval from the SO. AUs cannot take authorization test.

5. If SO is not comfortable in giving authorization for the equipment, he can request additional authorization test runs.

2. Equipment Usage Policy

Submit a request (Process/ Training) for equipment online. Go to "www.cen.iitb.ac.in--> Online Modules -- > Equipment usage Request" to submit a request.

For a Process Request:

1. SO/ FIC will approve/ disapprove the request within 2 days of submission of the request. If not, requester should raise the flag to SO/LIC/ Assistant Lab manager within 2 days after the mentioned time period or send a mail to iitbnf@ee.iitb.ac.in.

Note: Slots can be rejected for following reasons - Incomplete or not clear details of sample history, contamination issue, feasibility issue, equipment 'not working'.

2. Requester will receive a mail from SO regarding the approved or rejected mail.

3. If the request is approved by SO/FIC, operator will book a slot within one day after SO's approval as per the requester's mentioned preferred slot.

4. If no preferred dates are given, operator will book slots as per his/ her convenience.

Note: If no slot is booked, requester should raise the flag to SO/LIC/ Assistant Lab manager within 2 days after mentioned time period, or send a mail to iitbnf@ee.iitb.ac.in

5. If the 'preferred dates' submitted by requester are not convenient for operator, operator needs to coordinate with requester and then book the slots accordingly with mutual consent.

6. When a slot is booked, requester will receive a mail about the scheduled slot dates.

7. If for some reason, the slot was not used or cancelled, a fresh request needs to be submitted by the requester to book another slot.

8. If the request is rejected by SO/FIC, requester should check the 'comments' made by the SO for rejection and submit a fresh request accordingly.

For a Training Request:

1. SO will check the details of the request w.r.t. feasibility and contamination for future usage of the tool by the requester.

Note: Training can be rejected for following reasons - Incomplete or not clear details of sample history, equipment 'not working', usage requirement of requester as an AU.

2. If the request is approved by SO/FIC, the lab member should receive a mail from the SO/ Operator/ AU of that equipment about the schedule of 1st training slot within 7 working days of submitting a training request. If not, member should raise the flag to LIC/ Assistant Lab manager within 2 days after the above mentioned time period or email to iitbnf@ee.iitb.ac.in

3. Member needs to be in touch with SO/ Operator/ AU for taking mutually convenient dates for future training slots.

4. After every training slot, it is mandatory for the member to make entries on the online form. [Go to www.cen.iitb.ac.in-->slot booking. Logon to the module. Click on Management☐Equipment Training].

5. When all training slots are completed, the SO/ operator conducts a test for the member. The authorization is granted to the member upon passing the test. [While filling this data online, the member should choose the 'authorization' option under 'type of run' for the final slot on the online training form.]

6. A formal mail will be received by lab member granting him/her formal authorization for the equipment. After that, member can book slots on his/her own for the equipment.

Note for SO: Authorization on the slot booking module should be given only after checking that PROPER 'authorization' entry has been made in the training form.

7. A lab member should complete training and authorization test within 20 working days of submission of a training request [provided the equipment is in a 'working' condition]. In case this does not happen, the member/ SO/ operator should raise the flag to LIC/Assistant Lab Manager.

Note for Trainers/ Trainees: If the training is not happening as per expectations, raise the flag to LIC/ Assistant Lab Manager or email to iitbnf@ee.iitb.ac.in

8. More than one training run per equipment per day is not recommended. But in emergency, it may be taken.

9. If a lab member does not attend the scheduled training slots without informing the SO/ Operator/ AU, the penalty will be that he/ she will be debarred from submitting any training requests on any equipment at IITBNF for a period of one month.

10. If the request is rejected by SO/FIC, requester should check the comments made by the SO for rejection and if required, submit a fresh request accordingly.

11. Lab members should have adequate knowledge of the type of process that is being carried out in the particular equipment before submitting a training request [Silicon VLSI Technology: Fundamentals, Practice, and Modeling by James D. Plummer (Author), Michael Deal (Author), & Griffin]

NEW LAB POLICY (Updated on 21st September, 2021)
Background of the Policy:-

Electronic measurements are very sensitive. It has been noticed that turning ON/OFF of any tools or chargers disturbs the measurement, and in the worst case even leads to the breakdown of the devices in the Device Characterization Lab. That's why a modification in policy is needed to protect the measurement from getting affected.

NEW POLICY FOR THE DEVICE CHARACTERIZATION LAB

1. **FOR THOSE INVOLVED IN MANAGING THE LAB**

   a. **All switchboards** must be **labelled as Electronic / Non-Electronic**.

   b. Components **frequently turning ON/OFF** must be on a **Non-Electronic Switchboard**. For example, **vacuum pump, Lamp source, Dehumidifiers**.

2. Put a label stating **"Never pull out any plug or insert/ re-insert any plug in the Lab."**

3. In case an **EMT/Facility team** is required **in the lab** for any work, the Lab should be **Black out for some time**. The Blackout time can be decided in coordination with Lab In charge / Lab RA.

2. ==FOR THE LAB USERS==

Before entering into the Lab
- ==**Must Plan and book the slot one day in Advance.**==

On entering the Lab
- Always ==**first check the online Slot Booking Module**==. If your ==**work**== is going to ==**overlap**== with ==**someone else's work**== on another tool/s, you must ==**switch ON**== relevant switches for the ==**Vacuum pump**== for the **respective tools**.
- If your tool is already ON, you can start your work. However, ==**if all switches are not ON**==, **contact SO / Lab RA or the user** already doing the measurement **before turning any switch**.

While using the Lab
- ==**Do not plug in or plug off**== any ==**chargers**==, any **laptops** etc. when the **measurement is going on** any system. Coordinate with the Lab members.
- **Must not plug out and plug in any tools** without the prior **permission** of **Lab In charge.**
- **Must not turn any switch** while **measurements** are **going ON** in the Lab.
- In case you are ==**leaving the lab**== during the measurements, ==**put a label**== near the tool stating measurements are going on.
- You should not change the ==**grounding lines**== already present. If any change is needed, ==**please contact SO/Lab In charge/FIC**==.

Before Leaving the Lab
- If your ==**slot**== is already ==**overlapping**== with **someone else's slot**, ==**don't turn OFF**== the system, simply leave the lab.
- In case you ==**want to cancel your booked slot**==, you must **inform** the **user** whose slot was overlapping with your slot **before his/her slot ends** for proper turning OFF of the tools.
- In case of a **cancelled slot**, if you **forget to inform** the user who has booked the slot prior to you, then it's ==**your responsibility to turn the tools OFF**==.
- If your ==**slot is not overlapping with anyone**==, i.e., when your slot is over, at that time ==**if no other instrument is in use**==, then you should ==**turn OFF all the tools before leaving the Lab**==.

Domain where new Char Lab Policy is applicable:-

- 3.1 DC Lab
- 3.2 DC Lab

User Education - New user, annual review with compliance signature for continued access to Device Characterization Lab.

Violation is by DAC.