

Metric No 4.4.2

There are established systems and procedures for maintaining and utilizing physical and academic support facilities – laboratory, library, sports complex, computers, classrooms etc.



Policies for Maintenance and Utilization of Academic Facilities in Departments

Infrastructure Utilization and Maintenance Policy

1. Utilization of Laboratories

- ❖ The Department Office keeps track of all of the laboratory keys. The lab assistant only opens the laboratories when a lab is planned.
- ❖ In the absence of a faculty member or lab assistant, no students are permitted into the lab.
- ❖ In all Civil Engineering laboratories, eating, drinking, and trash are strictly forbidden.
- ❖ Safety precautions and decent housekeeping is constantly practised.
- ❖ After the session is over, the lab assistant is in charge of turning off all the computers, lights, and fans.

2. Conduction of an Experiment

- ❖ Before attending lab class, students are advised to study the experimentation's protocol.
- ❖ Before any electrical devices are plugged in or turned on, the lab assistant must first inspect the setup for investigations that call for the usage of electrical components.
- ❖ Extreme caution must be taken when handling the chemicals used in some tests. Immediately following the conclusion of the experiment, used and unused chemicals must be given back to the lab assistants. Never empty chemical containers into trash cans or water sinks.

3. Borrowing Procedures and Use of Equipment

- ❖ All equipment must be stored safely and loaned out by the lab assistants in the Civil Engineering labs.
- ❖ Before any lab equipment or item is borrowed, students must put their name and class in the register.
- ❖ After the experiment is over, all borrowed apparatus items must be returned.



4. Safety Measures

- ❖ To ensure safety, students are not allowed to enter the laboratory without the guidance of a faculty member or lab assistant.
- ❖ Prior to starting an experiment, students must obtain permission from the faculty to ensure that they understand the instructions and safety procedures.
- ❖ The faculty is responsible for continuously monitoring ongoing experiments to ensure that students follow safety procedures and conduct the experiment correctly.
- ❖ Aisles in the laboratory must remain unobstructed to prevent accidents caused by tripping and to ensure emergency response is possible.
- ❖ Non-enrolled individuals are prohibited from visiting the laboratory class to reduce the risk of accidents and distractions that could arise from individuals not trained in laboratory safety procedures.
- ❖ Cell phone use during laboratory hours is not allowed to avoid distractions and prevent interference with laboratory equipment.
- ❖ Students are responsible for properly using laboratory equipment, avoiding writing on or defacing it, and only using it for its intended purpose.
- ❖ Appropriate dress code must be followed during laboratory sessions to ensure student safety by covering skin and preventing contact with chemicals, flames, or moving equipment.
- ❖ Students must understand the procedures, materials, and equipment used in experiments and their limitations and hazards to prevent accidents.
- ❖ Proper conduct must be observed to ensure a safe and productive laboratory environment that avoids behaviour that may cause distractions or inconvenience to other students.
- ❖ To prevent accidents, students are required to tie back long hair and wear clothing that does not come into contact with chemicals, flames, or moving equipment.



- ❖ Reporting all injuries, no matter how minor, is critical to prevent further injury and ensure the student receives proper medical attention from the authorized medical personnel.

5. Maintenance and utilization of support facilities

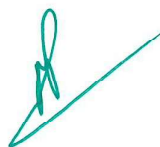
5.1 Maintenance

- ❖ The strategy for minimizing equipment breakdowns involves planned preventative maintenance measures, which aim to identify and address potential weak points in the equipment by replacing worn-out or damaged critical parts. This proactive approach ensures that each piece of equipment is working at its optimal level and can provide consistent and dependable performance. The outcome is minimized downtime and maximized efficiency and productivity of the laboratories. The laboratory in-charge conducts routine check-ups before experiments are conducted to ensure the equipment is functioning correctly.

5.2 Repair

When repairing laboratory equipment, the following steps are taken:

- ❖ **Assessment:** The equipment is evaluated by a laboratory technician to determine the problem's nature and extent. Troubleshooting may be necessary to identify the underlying issue.
- ❖ **Diagnosis:** Based on the assessment, the technician diagnoses the problem and identifies the necessary repairs or replacement parts.
- ❖ **Approval:** The faculty member in charge of the laboratory is consulted for approval once the technician has determined the repair requirements. The faculty member then consults the department head to obtain approval for the repairs.
- ❖ **Procurement:** If replacement parts are needed, they are ordered from the supplier and delivered to the laboratory.



- ❖ **Repair:** The technician carries out the necessary repairs, which may involve replacing components, cleaning or recalibrating instruments, or repairing wiring or connections.
- ❖ **Testing:** After the repairs are completed, the equipment is tested to ensure that it is functioning correctly.
- ❖ **Documentation:** The technician documents the repair work, including the diagnosis, repairs made, and any replacement parts used, and updates the equipment records.
- ❖ **Follow-up:** The technician follows up with the faculty member to ensure that the repaired equipment is meeting their needs and to address any outstanding concerns or issues.

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HEAD OF THE DEPARTMENT

Head of the Department
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Infrastructure Utilization and Maintenance Policy

- ❖ Purchase of consumables and equipment for every semester as per the curriculum and regulations
- ❖ Periodical upgradation of equipment as per the recommendation of BOS
- ❖ In every lab, updated stock register is maintained and stock verification is carried out in every academic year.
- ❖ Separate register is maintained to dispose the obsolescence equipment.
- ❖ All the laboratories are designed to provide ample space and a comfortable environment for conducting experiments.
- ❖ High-speed internet of 1GBPS is provided for both students and faculty use.
- ❖ Technicians responsible for condition monitoring and maintenance of equipment on regular basis. Any equipment that is out of service is reported to the lab in-charge, who then prepares a maintenance chart.
- ❖ Technicians handle minor repairs themselves, whenever major repairs occur the department seeks help from a third-party service provider.
- ❖ The lab in-charge maintains a service record of all the equipment.
- ❖ Each laboratory has visible displays of Do's and Don'ts and Safety Measures for students and faculty to follow.
- ❖ Periodical updates and maintenance of all the necessary and licensed software and its applications are installed on the PCs.
- ❖ The trainer kits are regularly checked for faulty components and replaced promptly to ensure smooth functioning of the lab session
- ❖ The labs are equipped with UPS backups for all the PCs to prevent data loss while power outages.
- ❖ Adequate ventilation systems are installed in the laboratories to ensure a healthy and safe working environment.



Department of Electrical and Electronics Engineering

- ❖ Air conditioning is installed wherever software related labs
- ❖ All the labs are equipped with whiteboards and blackboards for teaching and presentation purpose
- ❖ Display charts and prototypes are provided in all laboratories for ready reference.
- ❖ Laboratory manuals and operating instructions are distributed to the students to ensure that they can work independently.
- ❖ The laboratories are regularly conducted and evaluated every week to ensure that students can apply their theoretical knowledge practically.
- ❖ Fire extinguishers are installed in the laboratories to ensure the safety of students and faculty.
- ❖ The use of cell phones is prohibited in the laboratories to minimize distractions and ensure a focused working environment.


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Infrastructure Utilization and Maintenance Policy

1. Maintenance and Utilization of Laboratories

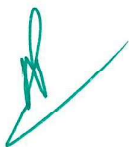
- ❖ Each laboratory under the control of the department have a faculty member as lab in-charge and he/she may carry out the maintenance activities of all the lab equipment/tools/computer systems with the support of well-trained technical staff.
- ❖ Lab technician under the supervision of the lab in-charge carry out the preventive maintenance at regular intervals so as to avoid breakdowns.
- ❖ Safety precautions and ambiance in the laboratory are ensured by enforcing a standard operating procedure for the use of the equipment and other facilities.
- ❖ Cleanliness in the laboratory is ensured by the housekeeping staff at regular intervals.
- ❖ Minor repairs are done internally by the technical staff. However major repairs and service requirements are intimated to lab in-charge, who in turn forward the requisition for the repair/service to the head of the Department.
- ❖ Head of the Department forward the requisition for the procurement of parts\materials required for repair/service to the Head of the Institution. The Head of the Institution orders either the repair/service by the appropriate maintenance section, if possible or sanction of money required for such an activity.
- ❖ Maintenance activities are planned carefully to avoid obstruction to the laboratory instruction.
- ❖ Stock and consumable registers of each lab are maintained and updated regularly by the lab in-charge in coordination with Head of the Department.
- ❖ Master readings and models are prepared at the beginning of the semester and identified errors, if any, are taken care of.
- ❖ The lab in-charge estimates the consumables as per the requirement. Requisition for purchase of consumable items are placed for the consideration of Head of the Department. Then final requisition for all labs are submitted to the Head of the Institution for sanction of the estimated amount of money.



- ❖ A team of two faculty members nominated by Head of the Department audits the laboratory as per the stock register by running and checking the equipment/tools and reports to the Head of the Department.
- ❖ Obsolete and disposable items are identified by the lab in-charges and recommends for its disposal.
- ❖ Purchase of consumables and other items is carried out by the Department from the local vendors. In case of high value items, quotations are called for and then comparative statements and purchase orders are prepared. The purchase orders approved by the finance department are then sent to the selected vendors for the supply of the items.
- ❖ Utilization of the laboratory during and beyond the instruction period is monitored by the lab technician and a log register is maintained in each laboratory. The log register is verified by the lab in-charge once in a week and by the Head of the Department once in every fortnight.
- ❖ Lab instructor ensures the procedures and safety precautions of the laboratory. Lab instructor plans the instruction in cycles as per the curriculum with students divided into batches.

2. Maintenance and Utilization of Classrooms

- ❖ Cleaning at regular intervals by the house keeping staff is ensured by the Department in coordination with the floor in-charge.
- ❖ Repair and maintenance activities to be carried out in the class rooms are brought to the notice of the Head of the Department by class in-charges and student representatives whenever required. Head of the Department then recommends for the service from respective maintenance section.
- ❖ Department ensures the proper utilization of the class rooms as per the given schedule in line with instructions of the Head of the Institution.



3. Maintenance and Utilization of Supporting Facilities

- ❖ Department with the help of office clerk ensures the maintenance of all the supporting facilities.
- ❖ Maintenance such as electrical, sanitation, plumbing, air conditioning and civil works from the respective sections is carried out whenever required.
- ❖ Register for the utilization of supporting facilities such as printing and other stationary items is maintained by the Department clerk and is verified at the regular intervals by the Head of the Department.



HEAD OF THE DEPARTMENT

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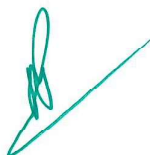


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Infrastructure Utilization and Maintenance Policy

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- ❖ Technicians handle minor repairs themselves, whenever major repairs occur the department seeks help from a third-party service provider.
- ❖ The lab in-charge maintains a service record of all the equipment.
- ❖ Each laboratory has visible displays of Do's and Don'ts and Safety Measures for students and faculty to follow.
- ❖ Periodical updates and maintenance of all the necessary and licensed software and its applications are installed on the PCs.
- ❖ The trainer kits are regularly checked for faulty components and replaced promptly to ensure smooth functioning of the lab session
- ❖ The labs are equipped with UPS backups for all the PCs to prevent data loss while power outages.
- ❖ Adequate ventilation systems are installed in the laboratories to ensure a healthy and safe working environment.



Department of Electronics and Communication Engineering

- ❖ Air conditioning is installed wherever software related labs
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- ❖ The use of cell phones is prohibited in the laboratories to minimize distractions and ensure a focused working environment.

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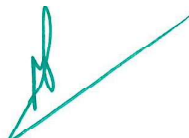
Infrastructure Utilization and Maintenance Policy

1. MAINTENANCE AND UTILIZATION OF LABORATORIES

- ❖ Laboratory equipment & Regular maintenance of the computers will be conducted by qualified technical staff to ensure smooth functioning.
- ❖ A comprehensive maintenance schedule is followed to ensure that all laboratory equipment is serviced regularly and calibrated as needed.
- ❖ Policies and safety guidelines are clearly displayed in all laboratories to ensure that students and faculty members are aware of safety protocols.
- ❖ The department maintains a backup power supply through the use of UPS systems and batteries to ensure that power outages do not interrupt laboratory work.
- ❖ The laboratories are maintained in a clean and orderly manner to ensure a conducive environment for learning and experimentation.
- ❖ Department is having internet speed 1 GBPS (100 MBPS TO 1GBPS) and shared Blue Wi-Fi is maintained for students and faculty usage.
- ❖ All necessary PC system regular software like Microsoft office, browsers, lab software, antivirus software etc., is installed and maintained.

2. OVERALL AMBIANCE

- ❖ The Laboratories are designed to provide an industrial-like environment for students to conduct experiments.
- ❖ The Laboratories are equipped with modernized and state-of-the-art equipment to meet the academic requirements.
- ❖ The Laboratories are well-maintained with proper ventilation.
- ❖ The Laboratories are furnished with necessary amenities such as white/black boards, projectors, computers, and high-speed internet for the benefit of the students.
- ❖ The department boasts experienced faculty members who can educate students in all areas of engineering.
- ❖ Regular lab sessions are conducted and evaluated on a weekly basis.



- ❖ The labs are fully equipped with sufficient hardware, licensed software, and open source software for running both program-specific and off-program curriculum.
- ❖ Clear Do's and Don'ts rules are displayed in the laboratory to ensure safety and proper usage of equipment.
- ❖ The department has a research laboratory/dept. library available for all faculties and students to conduct research work and projects.
- ❖ Project labs have been exclusively provided to students for carrying out their mini and major projects.

3. SAFETY MEASURES

The following are the safety measures undertaken by the department:

- ❖ All the laboratories in the department electrical cabling are done underground which are Secured and hazard free while using the laboratories. Earthing is done to prevent unexpected fluctuations in the power supply in the department.
- ❖ Fluctuations that rise when using the generators at the time of power failure are handled by the UPS in the power room.
- ❖ The department maintains its own power house to provide uninterrupted power supply to the systems.
- ❖ All the systems in the laboratories are connected to the servers in the server room by maintaining network connection plan which makes the lab-in-charge to handle network. Effective cabling system is in place in the Laboratories.
- ❖ Student experiment data is backed up regularly for security purposes.
- ❖ Student are restricted to use full privileged systems due to various constraints and provided separate username and password.
- ❖ During examinations, separate exam logins are provided to prevent malpractice.
- ❖ First-Aid boxes with necessary kits are readily available in the corridors and floors of the Laboratories.



- ❖ Fire bucket stands and centralized wet pipe fire sprinkler system are provided in the corridors of the Laboratories for fire safety.

4. GENERAL INSTRUCTIONS TO FOLLOW IN THE LABORATORIES

Do's	Don't
Remove your shoes before you enter the labs.	Do not touch any part of the computer with wet hands.
Maintaining silence is highly appreciated	Don't damage, remove, or disconnect any labels, parts, cables or equipment without permission.
Report any problems with the computer to the person in-charge.	Do not install or download any software or Modify or delete any system files on any lab computers.
Make sure your external devices are virus free.	Do not insert metal objects such as clips, pins, And needles into the computer casings.
Near the end of your Lab period, check the dock and close any open applications.	Do not attempt to repair, open, tamper, or interfere with anything inside the lab



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Infrastructure Utilization and Maintenance Policy

The technical staff at the laboratories are well-trained and capable of providing adequate support to students. Each laboratory is supervised by a faculty member who works alongside the technicians to ensure that the equipment is well-maintained and functioning properly. Both the faculty and technical staff are available to assist students during and beyond working hours, particularly with their projects and learning needs.

- ❖ All the laboratories are equipped with the necessary equipment to conduct all the required experiments.
- ❖ Routine maintenance is carried out during in every 6 months and repair is carried out whenever a complaint is raised.
- ❖ The equipment is calibrated whenever necessary to ensure accuracy and reliability. Typically, lab experiments are conducted by groups of 1-3 students.
- ❖ The laboratories are designed with proper ventilation and lighting to provide a conducive environment for learning and experimentation.
- ❖ There is enough space for every student to carry out experimentation and noting down the readings by providing the benches.

1. MAINTENANCE & REPAIR

To minimize the occurrence of equipment breakdowns, proactive maintenance measures are implemented through planned preventive servicing. This involves identifying and addressing potential weak points in the equipment, and replacing any critical parts that are worn out or damaged. The goal is to ensure that each piece of equipment is in optimal working condition and capable of providing consistent and reliable performance. This approach helps to minimize downtime and maximize the efficiency and productivity of the laboratories. There is routine check-up done by laboratory in-charge before conducting the experiments.



The repair procedure for laboratory equipment involves the following steps:

- ❖ **Assessment:** The laboratory technician assesses the equipment to determine the nature and extent of the problem. This may involve troubleshooting to identify the root cause of the issue.
- ❖ **Diagnosis:** Based on the assessment, the technician diagnoses the problem and identifies the necessary repairs or replacement parts.
- ❖ **Approval:** Once the technician has determined the repair needs, the faculty member in charge of the laboratory is consulted and faculty in-charge of laboratory is then consults Head of the department to obtain approval for the repairs.
- ❖ **Procurement:** If replacement parts are needed, they are ordered from the supplier and delivered to the laboratory.
- ❖ **Repair:** The technician carries out the necessary repairs, which may involve replacing components, cleaning or recalibrating instruments, or repairing wiring or connections.
- ❖ **Testing:** After the repairs are completed, the equipment is tested to ensure that it is functioning correctly.
- ❖ **Documentation:** The technician documents the repair work, including the diagnosis, repairs made, and any replacement parts used, and updates the equipment records.
- ❖ **Follow-up:** The technician follows up with the faculty member to ensure that the repaired equipment is meeting their needs and to address any outstanding concerns or issues.

Start → Equipment Assessment → Equipment Diagnosis → Approval → Procurement → Equipment Repair → Testing → Documentation → Follow-up → End.

2. STOCK CHECKING

As a regular practice, the department conducts an annual stock verification to ensure that all equipment is accounted for and in good working condition. Any irregularities or discrepancies are noted, including any broken or damaged equipment, and the responsible individuals are identified for repairs or replacement. This ensures that the laboratory equipment is well maintained and that any issues are addressed promptly to minimize disruptions to the learning process.



3. REMOVAL OF SCRAP

- ❖ **Identification:** The laboratory staff identifies the equipment or materials that are no longer needed or have reached the end of their useful life.
- ❖ **Evaluation:** The staff evaluates the condition of the identified items and determines if they can be sold, donated, or recycled.
- ❖ **Disposal Plan:** The staff creates a disposal plan that outlines the method of disposal, whether it be through selling, donating, recycling, or disposing of the items in compliance with relevant regulations.
- ❖ **Implementation:** The staff implements the disposal plan, which may involve contacting potential buyers or recyclers, arranging for pickup or delivery of the items, or disposing of the items in accordance with regulations.

4. ELECTRICAL AND HOUSEKEEPING

- ❖ The institution has a dedicated construction and maintenance department that is responsible for ensuring the smooth functioning and upkeep of the laboratories. This department is responsible for promptly addressing any electrical breakdowns, conducting routine servicing of equipment, and replacing fire extinguishers and first aid boxes as needed. They also ensure that the laboratories are kept clean and tidy through regular housekeeping. By providing these services, the department helps to maintain a conducive learning environment for students and faculty alike.

5. OVERALL AMBIENCE

- ❖ The department is fully equipped with modern and up-to-date laboratories that meet the curriculum requirements and cater to the needs of students.
- ❖ The laboratories are furnished with comfortable and appropriate furniture for both staff and students.
- ❖ The laboratories are also equipped with modern teaching and learning aids, including chalk/whiteboards, internet connectivity, and other necessary aids. This helps to create an

Department of Automobile Engineering

interactive and engaging learning experience for students while providing all the resources they need to excel in their studies.


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Infrastructure Utilization and Maintenance Policy

Practical sessions play a major role in understanding the subject and get hands-on training for the students. The technical staff at the laboratories are well-trained and capable of providing adequate support to students. Each laboratory is supervised by a faculty member who works alongside the technicians to ensure that the equipment is well-maintained and functioning properly.

1. POLICIES ON THE CONDUCTION OF AN EXPERIMENT

- ❖ Students are advised to read the procedure for the experiments before coming to the laboratory class.
- ❖ The lab assistant must first check the setup for experiments which require the use of electrical components before any of those are plugged in or turned on.
- ❖ Chemicals used in some experiments must be handled with utmost care. Used and unused chemicals must be returned to the lab assistants as soon as the experiment is finished. Chemicals should never be thrown into the water sinks or the trash bins.

2. BORROWING PROCEDURES AND USE OF EQUIPMENT

- ❖ The lab assistants in the Petroleum labs are responsible for the safe keeping and lending of all pieces of equipment.
- ❖ Students must enter their name and class in the register before any lab apparatus/ item is borrowed
- ❖ Only those pieces of apparatus item can be borrowed which are specified in the experiment to be performed or are required by the faculty.
- ❖ Apparatus item borrowed must be returned upon completion of the experiment

3. SAFETY MEASURES

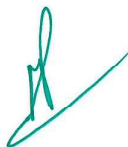
- ❖ No student is permitted in the laboratory without a faculty or lab assistant.
- ❖ Students may not start experiment until given permission by the faculty.
- ❖ Constant monitoring of an ongoing experiment is done by the faculty.



- ❖ Students are instructed not to block the aisle in the laboratory with their bags notebooks and other articles. Laboratory aisles must be kept uncluttered
- ❖ No student may invite individuals who are not enrolled in the Petroleum laboratory courses to visit the laboratory class.
- ❖ Use of cell phones is forbidden during class hours.
- ❖ Students should not write or deface any lab desks, computers or any equipment provided to them during the experiment. They will use all equipment only for the purpose intended.
- ❖ Proper dress code should be followed during the laboratory sessions.
- ❖ Students should be familiar with the procedures, materials, and equipment that will be needed for the experiment. Also, be familiar with limitations (power/voltage rating, proper equipment grounding, load bearing capacity, working temperature, cool-down /warm uptime, etc.) of the equipment to be used for the experiments as well as of the hazards associated with the materials.
- ❖ Proper conduct must be observed at all times. Any kind of behaviour that may cause inconvenience or distract others students will not be condoned.
- ❖ Long hair must be tied back and loose clothing confined to avoid coming in contact with chemicals, flames or moving equipment.
- ❖ All injuries, however minor, must be reported to the faculty/ lab assistant and the student should be sent to clinic accompanied by another person who is authorized by the faculty to Medical Doctor of the College.

4. MAINTENANCE

- ❖ To minimize the occurrence of equipment breakdowns, proactive maintenance measures are implemented through planned preventive servicing. This involves identifying and addressing potential weak points in the equipment, and replacing any critical parts that are worn out or damaged. The goal is to ensure that each piece of equipment is in optimal working condition and capable of providing consistent and reliable performance. This approach helps to minimize downtime and maximize the efficiency and productivity of the laboratories.





- ❖ There is routine check-up done by laboratory in-charge before conducting the experiments.

5. REPAIR

The repair procedure for laboratory equipment involves the following steps:

- ❖ **Assessment:** The laboratory technician assesses the equipment to determine the nature and extent of the problem. This may involve troubleshooting to identify the root cause of the issue.
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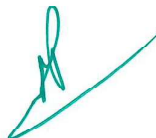

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Laboratory Utilization and Maintenance Policy


Practical sessions play a major role in understanding the subject and get hands training for the students. The Mining laboratories are a place where a strict policy and cautions are followed by the teachers, students, lab assistants and lab attenders who enter the lab. The equipment, apparatus and component used in the Mining laboratory have its own safety and precautions to be maintained and followed.

- ❖ All labs are be maintained by qualified & trained staff.
- ❖ All necessary equipment is procured in each lab for conducting experiments as per curriculum.
- ❖ List of experiments and lab in charge is displayed in the laboratory along with course objectives and course outcomes.
- ❖ Every lab is provided with a manual for conducting curriculum experiments.
- ❖ All necessary safety measures are taken in the laboratory and precautions are to be taken are prominently displayed.
- ❖ Preventive maintenance is carried out for all equipment on regular basis.
- ❖ Stock register is maintained in every lab and stock verification is carried out once in a year before commencement of the academic year.
- ❖ Every person entering the lab should sign in the log book (student/faculty).
- ❖ All the students should wear appropriate dress and foot wear to conduct experiments.
- ❖ In the laboratory every student should listen to the demonstration given by the teacher before conducts the experiment.
- ❖ All students should come prepared with the observation book for conducting experiments.
- ❖ An indent form needs to be filled by students for taking necessary equipment.
- ❖ The experimental set up prepared by the students shall be verified by the technician/teacher.
- ❖ Students are required to strictly follow the precautions while doing the experiment.



Department of Mining Engineering

- ❖ After completion of experiment student should return the equipment and report if there is any damage.
- ❖ Student assessment is done based on the observation book, record and day to day performance.
- ❖ No equipment shall be taken out of the laboratory without prior permission.


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Infrastructure Utilization and Maintenance Policy

COMMUNICATIVE ENGLISH LABORATORY

Practical sessions play a major role in understanding the subject and get hands on training for the students. The Communicative English Laboratory is a place where a student gets the opportunity to be exposed to native accent and at the same time gets platform to display his language skills.

Policies Framed for Maintaining and Utilizing Laboratory (systems/procedures) as per department needs.

1. Language Lab consists of 75 Computer systems are up for work in the month of June after every even semester
2. Estimated repairs are being done and they will be recorded
3. At the end of the academic year the stock registers are verified by the HOD
4. The laboratory maintenance is allotted to lab in-charges (faculty proposed by the HOD)

Duties of Lab Assistants:

1. Checking and maintenance of the lab equipment necessary for practical classes.
2. Assisting in the preparation of laboratory including opening of software.
3. To keep the laboratory clean and tidy. To do the regular checking of the electrical connections and to switch off the main electrical power supply at the end of the day.

LABORATORY RULES:

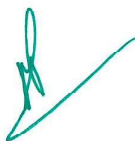
1. Students will not admit into the laboratory except the hours in which they have work.



2. No students should come to a practical class without (a) Record Note Rank (h) Observation Note Book (c) Head sets and (d) Formal dress.
3. Moving around the laboratory excepting for purposes of presentation is strictly restricted. When any instruction is needed by students he should wait at his seat for the instructor.
4. Maintain strict silence in the laboratory.
5. Keep the equipment and computer system on the working bench in a neat and orderly fashion.
6. If the given head sets are defective or damaged, report the same immediately to the instructor.
7. Students working in the laboratory are responsible for any loss or damage caused during their work hours.
8. All losses and damage caused during their practical work should be immediately reported to the instructor.
9. No student should leave the laboratory without submitting the observation note book for correction. His work must be approved by the instructor before he/she leaves the laboratory.
10. At the end of session students must keep the chairs and headsets in proper place.

PHYSICS LABORATORY

Physics is one subject whose knowledge will empower the students with analytical thinking of the situations/problems with the help of practicals carried out in the Laboratory. The practical's give a hands-on experience to the students to understand theoretical concepts, conditions, and cautions are to be followed not only by the students but by all related to the physics laboratory, faculty, lab assistants, and lab attendees who enter the lab. Each experiment, apparatus, and components used in the Physics Laboratory has to own safety and precautions to be maintained and followed. Hence a policy is prepared for the physics laboratory which should be adhered to by all related to the physics lab.



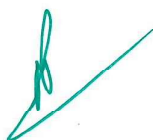
The Physics department has one laboratory with multiple units of experiments arranged on hard and sturdy tables in a well-ventilated spacious room. The practicals are conducted in two sessions Morning & Evening session.

I. POLICIES ON THE USES OF LABORATORY ROOMS

1. Routine maintenance of the laboratories is entrusted to the Lab attender/Lab assistants (Mechanical/Technical staff).
2. Good housekeeping and safety precautions should be observed at all times. Cleanliness of the labs is entrusted to the Lab attender/Lab assistants.
3. Students are allowed to enter the laboratory only in the presence of faculty or lab assistants.
4. After the completion of the experiment, the students have to complete all the remaining formalities (calculations, graphs, results, etc.) and get the signature of the faculty as a token of having complete
5. Lab assistant should check every utility like equipment, lights, fans, and whether the stabilizers are turned off when classes are over and when the students leave the lab.
6. As the main stakeholders, students are expected to follow the following DO'S and DONT'S.

DO'S

1. Come to the practical class well on time.
2. Keep your belongings near the entrance door of the lab.
3. Strictly adhere to the lab discipline, i.e., mind your own business, maintain silence, etc.



4. Go through the laboratory manual thoroughly before coming to the class and be prepared to do the experiments on your own.
5. Bring your calculator and other requirements.
6. Use the pencil only for drawing like figures, tabular forms, and graphs but not for observation values.
7. Note down the observations/Readings without any errors in the tables as they are taken. Try to take as many observations as possible.
8. Address all the problems and difficulties in the experiment to the class teachers or the lab staff only. They are there to help you and guide you.
9. Complete all the calculations and graphs in the same class.
10. Try to understand the Physics at work in the experiment you are doing.
11. Maintain all the records and observations up to date.
12. Be attentive to the advice/instructions from the teacher.

DON'TS

1. Don't leave the laboratory without permission at any time.
2. Don't disturb others and don't get disturbed by others.
3. Don't spoil the instruments - you may be fined.
4. Don't be lazy/lethargic. Be active in doing and understanding the experiments – It will shape your personality.
5. Never manipulate the observation/Result - There will always be some experimental errors.



II. Policies on the Conduct of an Experiment

- 1 For the smooth and efficient conduct of prescribed experiments in the lab classes, an exclusive lab manual focusing the experiments listed in the syllabus is to be prepared and distributed to the students when they enter the laboratory for the first time during the course.
2. Students are advised to read the procedure for the experiments before coming to the laboratory class and make a write-up of the experiment to be done in a given class.
3. The lab assistant must first check the setup for experiments that require the use of electrical components before any of these are plugged in or turned on. In case of faulty equipment, the instructor must be informed immediately so that a replacement can be secured from the physics store room.

III. Borrowing Procedures and Use of Equipment

1. The lab assistants in the Physics lab are responsible for the safe keeping and issue & collection of all pieces of equipment/components used in the Physics practicals Lab.
2. Only those pieces of apparatus / components can be obtained from the lab assistants which are specified in the experiment to be performed or as instructed by the faculty.
3. The students are held responsible for all apparatus / components taken during the lab session.
4. Apparatus /item taken must be returned upon completion of the experiment.
5. If any apparatus/component is found damaged while being returned, the cost of the apparatus/component will be collected from the concerned students.

IV. Make-Up Classes

1. Special or make-up experiments outside of regular class hours are discouraged.



2 In case of a special or make-up experiment outside the regular class hours, the student has to confirm the availability of the lab assistant, the equipment and the lab room before scheduling the lab class with the concerned faculty.

3. Special or make-up experiments outside the regular class hours are allowed only upon approval of the faculty and the HOD.

4 No special or make-up experiments are allowed if the lab faculty cannot be present during the special or make-up experiment.

5. Special or make-up experiments must be performed only in a lab room.

V. Breakage, Loss and Damage to Lab Equipment

1. Breakages, loss, equipment failures, malfunctions or other unusual equipment performance should be reported immediately to the lab assistant or faculty.

2. The borrower and her group members are responsible for the replacement or payment of the broken, lost or damaged items.

3. In case of broken, lost or damaged item, the lab assistant with the concerned faculty is authorized to note down all information about the borrower which will be necessary for proper documentation.

4. The cost of the broken, lost and damaged item is assessed by the lab assistant and the HOD and details of the same is forwarded to the borrower.

5. Students must pay/replace the broken/lost/damaged item on or before the commencement of their Practical Exams at the end of the semester.

6. Once the breakage amount has been paid by the students, the broken/lost/damaged item would be replaced by the concerned faculty, following the normal procedure.



VI. Safety Measures

1. No student is permitted in the laboratory without the presence of faculty and/or lab assistants.
2. Students should not start experiment without the permission of the faculty.
3. Constant monitoring of an ongoing experiment is done by the faculty.
4. Students are instructed not to block the aisle in the laboratory with their bags, notebooks and other articles. Laboratory aisles must be kept uncluttered. The bags and other articles may be kept outside the labs.
5. No student may invite individuals who are not enrolled in the Physics laboratory course to visit the laboratory class at any time.
6. Use of cell phones is forbidden during lab class hours.
7. Students should not write on or deface any lab desks, any equipment provided to them during the experiment. They shall use all equipment only for the purpose intended.
8. Every student is required to clean up their work space, disconnect all the electrical & electronic circuits after completing the experiment.
9. Students should be familiar with the procedures, materials, and equipment that will be needed for the experiment. Also, be familiar with limitations (power/voltage rating, proper equipment grounding, load bearing capacity, working temperature, cool-down/warm uptime, etc) of the equipment to be used for the experiment, as well as of the hazards associated with the materials.
10. Be familiar with the safety features of the laboratory such as the location of fire extinguishers, bucket of sand, medicine boxes, etc.
11. Proper conduct must be observed at all times. Any kind of misbehavior that may cause Inconvenience or distract other students will not be condoned.



12. Proper covered foot wear must be there when doing experiments inside the lab.
13. The students are advised to take self-precautions (like hair, clothing etc.) to avoid any kind of problems like injuries, electric shock etc.
14. All injuries, however minor, must be reported to the faculty/lab assistant so that the student be referred to medical attention by the medical doctor/assistant of the college immediately.

VII. Procedures and policies for maintaining and utilizing support facilities

- 1 All electrical wiring should be concealed in floors of the labs to avoid direct contact cables.
2. Servo stabilizer must be connected in order to have stabilized power supply to all work tables to safeguard the sensitive electronic equipment's.
3. A separate voltage stabilizer is connected to the major equipment separately.
4. Regular repairs and servicing (twice a year) of equipment should be carried out to keep equipment and lab in condition.
5. Earthing of all electrical points should be assured.
6. Fire extinguisher should be provided in the lab.
- 7 All equipment/apparatus /items purchased is to be entered in the respective stock registers and stock checking done at the end of every academic year.

CHEMISTRY LABORATORY

Practical sessions play a major role in understanding the subject and get hands on training for the students. The chemistry laboratory is a place where a strict policy and precautions are followed by the teachers, students, lab assistants who enter the lab. Each equipment, glass apparatus and chemicals used in the chemistry laboratory has its own safety and precautions to be maintained and followed. Safety rules are always followed inside the chemistry laboratory.

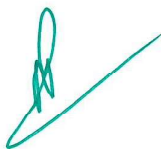


Policies Framed for Maintaining and Utilizing Laboratory (systems/procedures) as per department needs.

1. Every year in the month of April budget estimate for the consumables and non- consumables based on the requirement of the department as per zero based budgeting concept is submitted to the management.
2. After the approval of the budget allotment in the month of July from the management. Quotations are invited from four different chemical vendors. The lowest quoted items with the required quality parameters are ordered. The received items are checked and entered in the stock registers.
3. At the end of the year, amount of utilized chemicals are entered in the stock register and closing and opening balance accounts are maintained.
4. At the end of the academic year the stock registers are verified by the HOD
5. The laboratory maintenance is allotted to lab in-charges (faculty proposed by the HOD)
6. The store room is maintained by the store in-charge and the chemicals, apparatus are stored as per the maintenance procedure given by the manufacturer.
7. Fire extinguisher is installed in the laboratory for safety purpose.
8. First-Aid kit is maintained in the laboratory.

Duties of Lab Assistants:

1. Checking and maintenance of the glassware necessary for practical classes.
2. Assisting in the preparation of laboratory agents.



3. To switch off the main water pipe line before the closing of the laboratory.
4. To do the regular checking of the electrical connections and to switch off the main electrical power supply at the end of the day.

LABORATORY RULES:

1. Students will not admit into the laboratory except the hours in which they have work.
2. No students should come to a practical class without (a) Record Note Rank (h) Observation Note Book (c) Laboratory Guide and (d) Calculator.
3. Moving around the laboratory excepting for purposes of taking reagents from a common shelf is strictly for bidden. When any instruction is needed by students he should wait at his seat for the Instructor.
4. Maintain strict silence in the laboratory.
5. Keep the apparatus on the working bench in a neat and orderly fashion.
6. If the apparatus is defective or damage, report the same immediately to the attender or instructor.
7. Students working in the laboratory are responsible for any loss or damage caused during their work hours.
8. Reagent bottles or other articles taken from a common shelf must be replaced immediately after use.
9. All losses, damage, fire burns etc., caused during their practical work should be immediately reported to the instructor or attender in-charge. If a strong acid falls on the table or floor immediately dilute it with water.
10. Waste of chemicals should be avoided.



11. All reactions in which fumes or toxic gases evolved should be performed in the fumes cupboards only.
12. Never through strong acid into a sink if that is done by mistake, open the water tap and at once to dilute. Neither paper nor solids may be thrown into the sinks.
13. The chemical waste is collected and neutralized for its disposal.
14. Filter paper, piece of charcoal and other solids may be thrown into water box.
15. When using a balance follow the instruction given for balance work to weigh the compounds.
16. Remember that the method and manner of the experiments are more important than result.
17. No student should leave the laboratory without submitting the observation note book for correction. His work must be approved by the instructor before he/she leaves the laboratory.
18. At the end of experiment students must wash their apparatus and their table top air clean.


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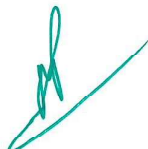
Infrastructure Utilization and Maintenance Policy

1. MAINTENANCE AND UTILIZATION OF LABORATORIES

- ❖ Laboratory equipment & Regular maintenance of the computers will be conducted by qualified technical staff to ensure smooth functioning.
- ❖ A comprehensive maintenance schedule is followed to ensure that all laboratory equipment is serviced regularly and calibrated as needed.
- ❖ Policies and safety guidelines are clearly displayed in all laboratories to ensure that students and faculty members are aware of safety protocols.
- ❖ The department maintains a backup power supply through the use of UPS systems and batteries to ensure that power outages do not interrupt laboratory work.
- ❖ The laboratories are maintained in a clean and orderly manner to ensure a conducive environment for learning and experimentation.
- ❖ Department is having internet speed 1 GBPS (100 MBPS TO 1GBPS) and shared Blue Wi-Fi is maintained for students and faculty usage.
- ❖ All necessary PC system regular software like Microsoft office, browsers, lab software, antivirus software etc., is installed and maintained.

2. OVERALL AMBIANCE

- ❖ The Laboratories are designed to provide an industrial-like environment for students to conduct experiments.
- ❖ The Laboratories are equipped with modernized and state-of-the-art equipment to meet the academic requirements.
- ❖ The Laboratories are well-maintained with proper ventilation.
- ❖ The Laboratories are furnished with necessary amenities such as white/black boards, projectors, computers, and high-speed internet for the benefit of the students.

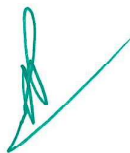


- ❖ The department boasts experienced faculty members who can educate students in all areas of engineering.
- ❖ Regular lab sessions are conducted and evaluated on a weekly basis.
- ❖ The labs are fully equipped with sufficient hardware, licensed software, and open source software for running both program-specific and off-program curriculum.
- ❖ Clear Do's and Don'ts rules are displayed in the laboratory to ensure safety and proper usage of equipment.
- ❖ The department has a research laboratory/dept. library available for all faculties and students to conduct research work and projects.
- ❖ Project labs have been exclusively provided to students for carrying out their mini and major projects.

3. SAFETY MEASURES

The following are the safety measures undertaken by the department:

- ❖ All the laboratories in the department electrical cabling are done underground which are Secured and hazard free while using the laboratories. Earthing is done to prevent unexpected fluctuations in the power supply in the department.
- ❖ Fluctuations that rise when using the generators at the time of power failure are handled by the UPS in the power room.
- ❖ The department maintains its own power house to provide uninterrupted power supply to the systems.
- ❖ All the systems in the laboratories are connected to the servers in the server room by maintaining network connection plan which makes the lab-in-charge to handle network. Effective cabling system is in place in the Laboratories.
- ❖ Student experiment data is backed up regularly for security purposes.
- ❖ Student are restricted to use full privileged systems due to various constraints and provided separate username and password.
- ❖ During examinations, separate exam logins are provided to prevent malpractice.




- ❖ First-Aid boxes with necessary kits are readily available in the corridors and floors of the Laboratories.
- ❖ Fire bucket stands and centralized wet pipe fire sprinkler system are provided in the corridors of the Laboratories for fire safety.

4. GENERAL INSTRUCTIONS TO FOLLOW IN THE LABORATORIES

Do's	Don't
Remove your shoes before you enter the labs.	Do not touch any part of the computer with wet hands.
Maintaining silence is highly appreciated	Don't damage, remove, or disconnect any labels, parts, cables or equipment without permission.
Report any problems with the computer to the person in-charge.	Do not install or download any software or Modify or delete any system files on any lab computers.
Make sure your external devices are virus free.	Do not insert metal objects such as clips, pins, And needles into the computer casings.
Near the end of your Lab period, check the dock and close any open applications.	Do not attempt to repair, open, tamper, or interfere with anything inside the lab


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