



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

363, Arcot Road, Kodambakkam, Chennai – 24
Approved by AICTE & Affiliated to Anna University
email Id: principal@msec.edu.in
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CRITERIA 4

4.4 Maintenance of Campus Infrastructure

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

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DEPARTMENT OF CIVIL ENGINEERING

CIVIL AND GENERAL MAINTENANCE PROCEDURES

The college ensures that the functionality and aesthetics of the buildings are properly maintained at all times to ensure maximum efficiency.

The following civil works are carried out periodically:

- ↓ Repair works in classrooms, faculty rooms, restrooms etc.
- ↓ Replacement/repair of wood works (doors, benches, boards), window glasses and flooring tiles etc.
- ↓ External and internal painting of buildings.
- ↓ Repair and maintenance of plumbing and sanitary fixtures.
- ↓ Cleaning and maintenance of overhead water tanks and sumps.
- ↓ Repair and maintenance of internal roads.
- ↓ Continuous water supply is monitored.

A complaint register is maintained for recording complaints on civil works by the staffs and students. Complaints can also be made directly over phone to Dr. L. Ramajeyam, Dean & HOD (Civil) and Dr. R. Arivazhagan, Associate Professor (Civil).

On receiving complaints, inspection of the faults is carried out by the in-house teams. Minor repair works are addressed immediately. Major repair works are outsourced and their work orders are submitted for approval. After approval by the Secretary/Principal, repair works and rectification of faults are carried out within stipulated time. Bills raised from external agency are then processed through the Accounts Department for payment.

Separate maintenance teams are available for housekeeping and landscaping etc. The sanitation and cleanliness of the college campus is ensured at all times.

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DEAN & HOD-CIVIL

DEAN

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Campus Electrical Maintenance Procedure

- Inspection of electrical fixtures fans, tube lights, air conditioners, earthing, lifts, DG etc is done periodically.
- Maintenance activities are carried through a suggestion register placed in the administrative office.
- The students and the staff register their complaints regarding the lighting loads (Loads connected through LDB), class room facilities and the internet connectivity in the suggestion register.
- The complaints are duly attended by the inspection team on a daily basis.
- In case of contingencies, the students and the staff members are advised to call the maintenance team's phone number displayed in the notice board available in the class rooms and the laboratories in each floors.
- The health of the fire extinguishers available in the classrooms and the laboratories in all the floors are ensured by periodical inspection carried out every three months.
- The annual maintenance of the earth pits available in the main block, mechanical block, civil block, first year block and the electrical substation is carried out to prevent electric shock.
- The campus has a 250 KVA Diesel generator set to ensure uninterrupted supply of power during routine maintenance.

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Meenakshi Sundararajan Engineering College
(Managed by I.I.E.T Society)
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Dr. K.S.Babai, B.Sc., B.E., MS., FIE., MISTE., Ph.D
Secretary

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IT Infrastructure Policy and Maintenance

IT Policy:

- The Server and computers are provided with 24 hours UPS backup
- Annual maintenance contract for all systems, UPS and Firewall is implemented annually.
- Students and Staff are provided with a common login department wise.
- Students are not allowed to change their password, access c drive, change desktop and install software.
- Unauthorized sites are not accessible to the students in the computing laboratories.
- Emails and others website access are restricted for students during laboratory examinations.
- SRX345 firewall provides protection against intrusion prevention, application visibility and control, and content security features that include anti-virus, anti-spam, and enhanced Web filtering.
- Regularly updating anti-virus and ensuring anti-virus protection is working

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IT Maintenance:

The institution follows a standard maintenance procedure to ensure proper functioning of the systems. The maintenance, servicing and repair of all the IT facilities viz., computers, printers, networks, LAN, server, UPS, Internet of the entire college is entrusted to the IT department. IT infrastructure maintenance can be divided into three broad areas: server, desktop and security. The maintenance operation frequencies are real-time, daily, weekly, monthly or quarterly, as needed.

1. Server maintenance involves:

- Investigating known and unknown server errors
- Regularly checking disk space and all relevant partitions as well as keeping track of all free disk space thresholds
- Ensuring that server performance is optimal by regularly examining disk I/O, RAM, CPU and fragmentation

2. Desktop maintenance involves:

- A log is maintained where issues relating to:
 - System failure
 - Hardware problem
 - Software problem
 - Networking issues
 - Internet issues
 - UPS issues

are registered.


- System admins allocated by organization providing AMC service resolves the issues mentioned in the log.

3. Security maintenance involves:

- Regularly checking firewall logs to identify any suspicious activity


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DEPARTMENT OF CIVIL ENGINEERING

MAINTENANCE PROCEDURES FOR LABORATORIES

Preventive Maintenance:

- ↓ Cleaning and oiling of the equipment are done periodically and immediately after completion of the experiments.
- ↓ UPS back up is provided for all system based laboratories.
- ↓ Updating of Antivirus software is done for proper functioning of the systems.

Routine or Periodic Maintenance

- ↓ All lab equipment is checked for its working condition before the commencement of each semester by the lab in-charge and lab assistant.
- ↓ The equipment is calibrated and serviced periodically through suppliers and service personnel.
- ↓ Cleaning of equipment/computers and work tables in the laboratories is done periodically.
- ↓ All rotating parts of machines are provided with protective guards.
- ↓ Floor cleaning and mopping of labs are done regularly.
- ↓ Details of DO's and DONT's, safety measures are displayed in the laboratory and workshops.
- ↓ Stock and consumables registers are updated regularly.

Breakdown Maintenance

- ↓ When there are minor repairs in machinery/equipment, the lab assistant or technical staff of the respective laboratory tries to fix the repair.
- ↓ When major repairs are noticed, the supplier will be contacted immediately. Based on their inspection reports, a proposal is submitted by the lab in-charges and respective heads of departments to the Principal. After approval, based on the extent of defect, the machinery/equipment will be got repaired or serviced by the Supplier either in-house or at the supplier's premises. The Bills raised by the Supplier will then be processed through the Accounts Department.
- ↓ Service register is maintained and updated in each laboratory.

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Overall Ambience:

The infrastructure and additional facilities in the laboratories create the right ambience for the students to conduct experiments in the laboratories.

- ↓ All laboratories are spacious and well-furnished with good ventilation and lighting facilities.
- ↓ Sufficient number of fans and illumination sources are available for air circulation and brightness.
- ↓ Cleaning of equipment and computing systems is carried out on a weekly basis.
- ↓ Uninterrupted power supply is provided which helps unhindered working atmosphere.
- ↓ Earthing is maintained to prevent shocking.
- ↓ The fire extinguishers are provided for each lab.
- ↓ List of experiments are displayed in the laboratory.

DEAN & HOD-CIVIL

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SYSTEMS AND PROCEDURES FOR LABORATORY MAINTENANCE

Preventive maintenance:

- Provided suitable thickness of the wire based on current rating is used in the fuses to avoid the malfunctioning.
- Provided UPS back up is provided for all system based laboratories.
- Updating of Antivirus software for proper working of the systems.

Routine or Periodic Maintenance

- Lab Coordinator checks the working condition of the systems regularly.
- Students' Entry Register is maintained in each lab to track the fault of systems.
- Cleaning of computers and computer tables are done periodically.
- Floor cleaning and mopping of labs are done periodically.
- The batteries of the UPS are cleaned to remove dust and prevent corrosion.
- Stock register is maintained in the corresponding laboratories.
- Maintenance report for the identified fault is prepared and sent for action.

Breakdown maintenance

- AMC is provided for the systems. If there is a major repair, the system will be sent for service outside the campus with the approval of the management
- Service register is maintained in laboratory.

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Overall Ambience:

The infrastructure and added facilities in the laboratories create the right ambience for the students to conduct experiments in the laboratories.

- Spacious and well-furnished laboratories with good ventilation and lighting facilities are available.
- All laboratories are equipped with essential systems to meet the requirements of the curriculum.
- Weekly cleaning of systems is carried out.
- Number is marked on all the devices, systems, chairs and tables in all the laboratories.
- Do's and Don'ts are displayed in the laboratory.
- List of experiments are displayed in the laboratory.
- The laboratory manuals prepared are available in both soft and hard copies.
- Laboratories are utilized beyond the college hours for the convenience of the students.

Safety Measures in laboratory

Common Safety measures in the laboratories:

1. First Aid kit is available for emergency.
2. Fire alarms and Fire Extinguishers are available in case of fire emergency.
3. Well qualified technical supporting staff.
4. Students are advised not to switch ON the systems without the permission from the faculty members.
5. Students must ensure that the systems are turned OFF and the chairs are arranged in proper manner before leaving the Lab.
6. Students are advised not to touch any exposed wires or sockets.
7. Students are advised not to open the computer's power supply or monitor.
8. Electrical safety measures are provided.
9. Proper Earthing is provided.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

LABORATORY MAINTANANCE PROCEDURE

Students are given instruction in handling the equipment/system/component before the conduct of experiment during their lab sessions so as to maintain equipment/system/component in good condition and the maintenance of labs is depicted as follows

- ✚ Regular checking of Meters, Cathode Ray Oscilloscope (CRO) and Function Generator (FG) are being carried out and calibration is also done.
- ✚ Components are tested using Digital Multi Meter (DMM) and faulty components are replaced.
- ✚ Regular checking of Dual Power Supply, Digital Storage Oscilloscope (DSO) and FG are done for every month.
- ✚ Linear & Digital ICs are checked using IC Testers and faulty components are replaced.
- ✚ Regular checking of Digital Trainer Kit, Linear and Digital Power Supply will be done frequently.
- ✚ Regular checking of Microprocessor and Microcontroller kits are done frequently. Then faulty ICs are replaced.
- ✚ All the PCs are backed by UPS in Simulation/Project Lab.
- ✚ DSP and VLSI Kits are maintained frequently.
- ✚ Turning off all computers by selecting the shutdown option on the desktop.
- ✚ Maintenance of computers, Air Conditioner and Printer are done frequently.

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Procedure for Laboratories Maintenance – EEE

Laboratory Maintenance:

- The stock register is continuously updated while purchasing new equipment for each lab.
- Service register is continuously updated after servicing the equipment.

Civil Maintenance:

- Laboratories are cleaned by housekeeping staff regularly.
- Sufficient number of fans and illumination sources are available for air circulation and brightness which improves the overall ambience of laboratories.
- Uninterrupted power supply is provided which helps unhindered working atmosphere.

Preventive Maintenance:

- The list of experiments, Do's and Don't's, Safety measures, PEOs, PSOs, Vision and Mission are displayed in all laboratories.
- Earthing is maintained to prevent shocking.

Periodic Maintenance:

- Measuring meters are calibrated periodically.
- Dry run tests are conducted at the beginning of each semester. If any equipment found to malfunction during dry run test, the same is immediately serviced or replaced before commencement of the semester.

Breakdown Maintenance:

- While conducting the lab the faulty equipment is replaced by another one. The minor faults are carried out by either lab assistant or the faculty.
- Any major fault will be recorded in the service register. The service will be carried out whenever required.

Overall Ambience:

- The laboratory arrangements create the right ambience for the students to conduct experiments in the laboratories.
- All laboratories are spacious and well-furnished with good ventilation, natural light and lighting facilities.
- The laboratory manuals are prepared to meet the curriculum. The soft and hard copies of the manual are distributed to the students before the commencement of the lab.
- White board/board facility is available for each lab.
- The fire extinguishers are provided for each lab and an awareness program on fire safety is conducted to all staff members and the students.
- First aid kit is available in all the labs.

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DEPARTMENT OF MECHANICAL ENGINEERING LABORATORIES MAINTENANCE AND OVERALL AMBIANCE

Preventive maintenance:

- Checking the condition of all drive belts and replace if necessary
- Cleaning and oiling of the equipment are done after completing the experiments.
- Provided suitable thickness of the wire based on current rating is used in the fuses to avoid the malfunctioning.
- UPS back up is provided for all system based laboratories.
- Updating of Antivirus software for proper working of the systems.

Routine or Periodic Maintenance

- Lab Coordinator checks the working condition of the machine and equipment regularly.
- Cleaning of machine and equipment are done regularly
- Cleaning of computers and computer tables are done regularly
- Floor cleaning and mopping of labs are done regularly.
- The batteries of the UPS are cleaned to remove dust and prevent corrosion.
- Stock and consumable registers are maintained in the corresponding laboratories.
- The fault is identified with the help of the Lab Coordinators whenever it occurs; Maintenance report is prepared and sent for action.

Breakdown maintenance

- Minor repairs are carried out by the lab technicians. When there is a major repair, approval for service of equipment is obtained from Management through HOD. The equipment are sent for service and service report is obtained from industry
- Service register is maintained in each laboratory.

Overall Ambience:

The infrastructure and added facilities in the laboratories create the right ambience for the students to conduct experiments in the laboratories.

- Spacious and well-furnished laboratories with good ventilation and lighting facilities are available.
- All laboratories are equipped with essential systems to meet the requirements of the curriculum.
- For maintaining the overall good ambience, weekly cleaning of systems is carried out.
- Number is marked on all the systems in CAD and Mechatronics laboratories.
- Do's and Dont's are displayed in the laboratory.
- List of experiments are displayed in the laboratory.
- The laboratory manuals prepared are available in both soft and hard copies.


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CENTRAL LIBRARY

PROCEDURES FOR THE MAINTENANCE AND UTILIZATION OF CENTRAL LIBRARY

The Central Library is maintained by adequate staff members headed by the Librarian.

- ↓ The procurement of books is done based on the suggestions and recommendations of the faculty members and students.
- ↓ The List of books is forwarded to the Principal for approval.
- ↓ After approval, the books are purchased from the Suppliers.
- ↓ While receiving the books from the Suppliers; the title of books, name of author, quantity etc., is checked as per invoice by the Librarian.
- ↓ The books purchased are then entered in Accession Register as well as AutoLib software by the Librarian.
- ↓ The accession number, due date slip, and inner card is pasted on internal title page of books.
- ↓ Stock verification of library books is carried out by team of faculty members every year.
- ↓ In addition, rare collection of books is identified, organized and maintained in a separate space for reference.
- ↓ If there is any damage/loss of books, the cost of the books is recovered from the student/staff.
- ↓ Dusting of books and racks are done on a daily basis by the library staffs.
- ↓ The maintenance/repair/servicing of the computers in the **Digital Library** and LAN/internet connectivity etc is entrusted to the IT department.

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LIBRARIAN



J. S. M.

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Fire Safety Maintenance Procedure

- All the laboratories and the corridors in all the floors of the Main block, the Civil Engineering block and the Mechanical Engineering block are equipped with fire extinguishers.
- The health of the fire extinguishers available in the laboratories in all the floors are ensured by periodical inspection carried out every three months.
- The refilling and replacement of the fire extinguishers in the laboratories in all the floors are taken care every six months.
- A program on fire safety and awareness are conducted every semester to the staff members and the students.
- All the blocks are equipped with Downcomer unit in all the floors.
- The maintenance of the Downcomer unit's overhead tank and the water hose is carried out every 2 weeks.
- A program on fire safety and awareness using the Downcomer unit is conducted every semester to the staff members and the students.
- In case of contingencies, the students and the staff members are advised to call the maintenance team's phone number displayed in the notice board available in the class rooms and the laboratories in each floors.

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