



Shri Ramdeobaba College of Engineering and Management, Nagpur
(An Autonomous Institution permanently affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)
An ISO 9001:2015 Certified Institutions. NAAC Accredited with 'A' Grade

STANDARD OPERATING PROCEDURES (SOP) MANUAL

(Academic and Physical Maintenance Activity)

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1. DEPARTMENTAL ACADEMIC ACTIVITIES

1.1 Teaching and Laboratories

i) Preparation of Academic plan

- Every faculty member who has been allotted the subject for the semester reviews the syllabus
- Identification of learning objectives in particular unit of syllabus.
- Preparation of lecture plan for each unit based on the expected number of classes for that unit.
- Identification of suitable assignment questions in that particular unit.

ii) Conducting Classes

- Every staff member handles a class for a specified period of time as per the time table.
- Attendance is taken either at the beginning or the end of the class manually or online through Management Information System (MIS) Application
- Before starting the lecture for that day, the staff member has to review the previous class discussion by asking suitable questions.
- The delivery of lecture must be in such a way that the faculty must be able to draw and hold the attention of the students continuously by asking suitable questions throughout the class time.
- At end of the class the topic is summarized and then the class is concluded.

iii) Assessment and evaluation of students

a) Mid Examinations-Theory

- Review the overall performance of the students and identify the students whose performance in examinations is poor.
- The counselors must be informed about the poor performance of the students and guidance must be provided to them to perform better in the following examinations.
- Preparation of grade ward list for that examination and display on notice boards for Student information.

b) Lab Evaluation

Students' performance in the lab sessions can be measured on the basis of in the following

points

- Regular attendance to the labs.
- Maintenance of Record books.
- Lab Internal Examinations.
- Degree of participation of students in conduction of practicals.

iv) Remedial Work:

- As per provision of academic calendar the remedial classes are conducted after T1 and T2.
- Subject teacher deals with the remedial classes.
- Subject allotment information to be sent to the respective faculty members.
- Extra classes can be conducted for the lateral entry students for the required subjects.
- An attendance is maintained.

v) Guidance outside the class:

- The students are guided after the normal class work hours
- Guidance for the students is provided in the following instances.
 - Doubts related to subjects.
 - Project work.
 - New Technologies/Trends in the respective areas.
 - Paper presentation topics
 - Seminar topics.

vi) Discipline

- The staff member should be present near the class room before the commencement of the class
- Every staff member must handle the class for the specified period of time
- Attendance must be maintained strictly throughout the semester.
- When a member of the faculty intends to take leave, the information is given in advance to the Head of the Department and alternative arrangement is made by the faculty.
- Attendance registers must be maintained upto date and every month attendance is uploaded MIS.

vii) Establishment and Maintenance of Laboratories:

Details of Activities:

- Prior to the start of the course. Identifying the requirements according to the syllabus/curriculum.
- Listing out the different types of equipment and categorize them i.e., furniture requirement, electrical requirement, lab equipment, consumables etc.
- Preparing the comparative statement of the prices quoted by different vendors who satisfy our requirements
- Estimating the approximate budget and the approval from higher authorities.
- Calling the vendors for price negotiations at the purchase committee meeting.
- On the recommendation of purchase committee the vendors are finalized.
- The purchase order is placed.
- Based on the terms and conditions of the purchase order the vendor supplies and installs the equipment and necessary training is provided by the vendor to the concerned faculty and lab technicians.
- The bill is passed after the purchased items satisfy all requirements
- The details are entered in the lab stock register.
- The passed invoice is sent to the accounts section.
- The accounts section then makes the payment through RTGS.

Records to be maintained:

- Purchase document file
- Consumable file
- Stock Register.
- Log Register

viii) Maintaining equipment in labs

- Lab In-charge identifies equipment's replacing/ repairing and maintenance
- Venders are identified and quotation are sought
- Comparative statements is prepared

Details of Activities

Prior to the start of the course

- Check the working condition of equipment in the presence of faculty lab- in- charge of the corresponding lab in each laboratory by Technician.
- As and when the equipment fails the equipment is repaired at the earliest by the laboratory Technician.
- The equipment with minor repairs is serviced by technicians in the lab itself.
- With the permission of HOD the authorized service engineer is contacted for the major repairs.
- After getting the estimation of service charges, approval is taken from the HoD /Principal, service engineer is called and the equipment is repaired.
- If it is not possible to repair it in the institute, then the equipment is sent to the service organization for repair. The equipment that is sent outside for repairs is recorded in a register.
- Bill is paid by the accounts section after repairing & checking for its operations.

Records to be maintained

- Office note.
- Service Reports.
- Stock Registers.
- Gate pass.

ix) Requirements, Planning Budget.

Details of Activities:

- Prior to the start of the course
- Information should be collected from the lab in-charge regarding the purchase of new equipment and lab maintenance requirement
- Estimation of the budget as per the requirements given by the lab-in-charge.
- This process is done as and when required.

Records to be maintained:

- Budget proposal
- Specific Requirements of different labs.

1.2 Examinations

Controller of Examinations:

1. The COE shall be responsible:
 - a) Prepare and announce in advance the calendar of examinations;
 - b) Arrange for printing of question papers;
 - c) Arrange to get performance of the candidates at the examinations properly assessed and process the results;
 - d) Arrange for timely publication of results of examinations;
 - e) Postpone or cancel examinations, in part or in whole, in the event of malpractices or if the circumstances so warrant, and take disciplinary action or initiate any civil or criminal proceedings against any person or a group of persons alleged to have committed malpractices;
 - f) Take disciplinary action wherever necessary, connected with examinations, against the candidates, paper setters, examiners, moderators, or any other persons and found guilty of malpractices in relation to the examinations.
 - g) Ensure timely and correct declaration of results .

Officer-in-Charge:

- i) Prepare master plan of seating arrangement, with regards to total number of students appearing for the examination.
- ii) Appoint invigilators, and administrative staff for conduct of examinations,
- iii) Receive blank answer books bearing serial numbers and sealed packets containing question papers and keep them in his personal custody.
- iv) Check the name of examination, course (subject), paper, date & time printed on the envelope with the examination time-table prior to conduction of examination.
- v) Open the sealed packets of question papers, 30 minutes before the start of Examination, both OIC and Co-Officer-in-charge should sign the packet in presence of two witnesses on each day of Examination.
- vi) Open only those question paper packets which are required on a particular day and shift as is given in the time-table of the Examination.
- vii) Give the memorandum of instruction to invigilators as received from the COE office and ask them to scrupulously follow the same.
- viii) Display the examination related instructions for student as received from the COE office at appropriate places.
- ix) Take rounds in the different rooms/halls to confirm that invigilators are performing their duties well and discipline is being maintained during examination.

- x) Submit the account of total answer-books received, answer-books used during examination, spoiled answer-books & the number of answer-books returned to the office of COE after completion of the examination.
- xi) Receive the cases of misbehavior, malpractices, use of unfair means etc from the invigilator and forward the same to the office of COE.
- xii) Provide at his/her level the facility of amanuensis/writer to the blind examinee with extra time of one hour and to the physically handicapped examinee with extra time of half an hour over and above the stipulated time limit of the paper to write answers after verifying the Medical Certificate issued by the Civil Surgeon/Orthopedic Surgeon. The writer should be lesser qualified than the blind/physically handicapped student.
- xiii) Provide at his/her level the facility of giving extra half an hour, over and above the stipulated time of the paper, to write answers during the examination to the paraplegics, orthopedically handicapped students who have hand co-ordination problem and to the visually handicapped students after verification of Medical Certificate issued by the Civil Surgeon/ Orthopedic Surgeon.
- xiv) Enter the roll numbers of the absentees in the MIS and send the absentee record to the COE office and spot valuation centre.
- xv) Check the answer books received from invigilators as per attendance record submitted by invigilators and arrange them according to the roll numbers.
- xvi) Submit the answer papers to the Spot-Valuation Centre immediately after completion of that paper.
- xvii) Prepare the statement of remunerations to be paid to the staff involved in the end semester examination as per the rules. Remuneration shall be paid to the staff after the examination is over and account of payment shall be submitted to the accounts office within a week.

Vigilance Squad:

- i) Make physical verification of students appearing for the examination. However, the verification of all female students shall be carried out by female faculty member only.
- ii) Ensure that the examinee does not carry with him/her any cell phone/mobile phones, book(s), written/printed papers or any other objectionable material in the examination hall.
- iii) Ensure that the examinee does not write anything on the question paper supplied to him/her.
- iv) Conduct themselves at the examination centre with utmost caution, courtesy and respect, without causing any kind of commotion, which may disturb the examinees.
- v) Not cause any kind of harassment either to the students or to any of the officials of the examination center.
- vi) Inspect the examination center regularly, go for surprise checking on and often to ensure that the arrangements made for the conduct of examinations are proper and adequate.
- vii) Initiate action to curb malpractices like copying, possession of in-discriminatory materials related to examinations, as per the rules and guidelines framed.

- a) The vigilance squad shall report the cases of malpractices detected to the OIC for necessary action and subsequently inform the same to COE.
- b) The vigilance squad shall carry out any other duties assigned by the COE from time to time for the smooth conduction of the examinations.
- c) The vigilance squad shall not release any press statement under any circumstances.

End Semester (lab) Examinations:

- A schedule for Lab Examination is prepared and sent to the respective HODs with a request to circulate among the staff.
- Prepare orders for external and internal Examiners with details of time, duration of examination, day, name of the staff member and date along with instructions.
- The orders are circulated / communicated to the concerned examiners
- Supply of required stationery to the concerned laboratories in-charge / concern faculty.
- The concerned examiners conduct the lab examination for the eligible candidates
- The concerned lab examiners (Internal / External) to evaluate the students and marks are entered online.
- Marksheets , attendance sheet and answersheets are sealed in envelope and submitted to the Head.

End Semester (Theory) Examinations:

- Appointment of Exam In-charge
- End semester examination schedule will be notified by as the examination section.
- Registration forms and hall ticket forms will be filled by the eligible candidates within the scheduled time, with appropriate fees.
- The examination time table schedule is sent to the respective HODs with a request to circulate among the staff and students and the same is displayed on all the noticeboards
- Seating arrangement with room numbers is to be prepared as per the format, one copy is to be retained with the examination branch and another is to be displayed on exam day for the benefit of the students.
- An invigilation chart is prepared with the details of time, duration of exam, day, name of the staff member and date along with instructions as per the guidelines.
- Full invigilation chart is to be circulated to all HODs and individual invigilation chart is to be circulated to the concerned faculty member, one copy of it is retained in the examination branch for writing day-wise invigilation
- In case of availing leave for personal reasons alternative arrangement in the prescribed format, should be made.
- The Incharge of examinations is to clearly educate invigilators of conduct of examinations to before the commencement of the examinations.
- The seating plan for each room is prepared and displayed.
- According to the seating plan the invigilators distribute the question papers subject wise and set wise
- The invigilators mark the absentees; the absentee list is collected and submitted to controller of examination.
- Incharge of examinations is to ensure receipt of the answer scripts from the invigilators. The answer scripts shall be packed set wise, branch wise, sealed and kept ready for evaluation.
- If any malpractice case is found, it will be brought to the notice of the Incharge examination.

2. MAINTENANCE

2.1 Civil Maintenance

Responsibility: Faculty In-charge inspects the premises at regular intervals and identifies the problems. The students, class teachers, faculty members also helps in identifying the problem associated with building. There issues are then raised online and directed to in-charge.

Takes actions upon the complaints received from various sections subjected to degree of urgency of the problem. Checks whether all the water storage and sanitation systems are cleaned at regular intervals.

a) Activities:

- Receiving the complaints, through MIS software.
- Identification of problem. Attending to the problem using the expertise of skilled workers (available in the institute or hired from outside), Inspection of maintenance works
- Closing the complaints.

b) Records to be maintained:

- Maintenance works Register
- Stock Register
- Complaints Register

2.2 General Electrical Equipment Maintenance

Maintenance of D. G. Sets.

The following activities are involved in the maintenance of D.G. Set.

- Checking diesel in storage tank daily and top it up, if it is not up to the mark.
- Replenishing stock of diesel at least every 15 hours of run of each generator. To procure the diesel, the following procedure is followed.
 - a) Putting up an office note by faculty-in-charge of electrical maintenance to the principal in standard format for approval to purchase diesel and also for transportation charges.
 - b) After getting the approval from the General Secretary / Principal, Cheque must be collected from the Accountant by Store In-charge.
 - c) Diesel for approved money is purchased and details are entered in stock register and Accession register and bills are submitted to the office.
- Checking water level in radiator and battery daily and filling it, if it is necessary
- Checking lubricant oil daily
- Checking specific gravity of distilled water of batteries bi-monthly.
- Cleaning the generators daily with cotton waste
- Maintaining load balance in three phases of generators
- Registering the number of working hours of each generator and going for maintenance once predetermined time is reached.
- Checking Radiator fan belt daily
- Above all activities are carried out by AMC party.

Maintenance of Sub-Station

The following activities are involved in maintenance of Sub-station.

- Cleaning the substation premises once in week
- Painting the transformer and other auxiliary equipment as required.
- Checking earth resistance and watering the earth pits especially in summer.
- Checking level of transformer oil regularly
- Switching-on and off of Capacitor bank automatically through APFC Panel.
- Prohibiting people from entering the Sub –Station.
- Accompanying and coordinating MRT team monthly while taking readings
- Conducting H.T inspection every year after receiving the instruction from concerned authorities.

Maintenance and Repair of general equipment:

In getting the services of electrical maintenance department and getting electrical equipment repaired, the following activities are involved.

- After identifying any problem related to electrical equipment, a requisition letter through concerned Head should be sent to the Principal.
- An instruction will be given to faculty in-charge through Head/EEE to take up the work.
- In-charge will instruct concerned Electrician to carry out the work.
- If the work is beyond ability of electrician or if it requires, help from outside experts will be taken
- The electrician after completing the work, will report to the person in- charge.

2.3 EPBX Internal Telephone Exchange:

Procedure for Procurement of New IP EPBX System

- Identify the number of extensions required and total requirement.
- Estimate the requirement of the system and submit proposal to the Principal
- Identify the vendors and call them for the quotations through Administrative officer
- 4 Prepare Comparative statement for the price and technical specifications
- Call the vendors for price negotiations before the purchase committee
- On recommendations of purchase committee the vendor will be finalized. Purchase order will be placed
- Based on the terms and conditions of the purchase order the vendor will supply the system
- Supervise the work done by the vendor as per our requirements and training will be provided by the vendor to the concerned staff.
- After satisfactory completion of the work, bill will be settled by the accounts section after the details of the system are entered in the stock register

Procedure for Maintenance of Internal Telephone complaints

- Check availability of spares regularly
- After receiving the complaint from the individuals inform the same to the technician and discuss the problem and its solution

- Check the voltage at the telephone instrument end
- Rectify the problem where ever is identified
- If the problem is related to the service provider, log the complaint.

Records to be maintained:

- Stock book for new purchase
- Telephone Requirement Complaints Register
- EPBX extension number details

2.5 Maintenance of Computers Hardware and Networking

Policies and Procedures

- The repair requests are send by HOD through mail / letter to CNC.
As per the priority of the maintenance the concerned hardware/networking personal will attend to the problem.
- If me problem is solved there it self the maintenance can be marked as closed in maintenance register
- If spare has to be purchased than it is brought to the notice of principal / General secretary

Records to be maintained:

- Maintenance register

2.6. Stock Verification:

The various items of stocks both non consumable and consumable shall be physically verified for their intactness, working condition and quantity as per stock register and to report for the discrepancies, deficits, working condition etc. This stock verification and the procedures laid down shall be carried out in each department.

Stock Registers:

- The items of purchase can either be consumable or on-consumable.
- Separate registers shall be maintained for both consumable, non- consumable and obsolete items and entries be made accordingly.
- All entries for various items of purchase after they are duly entered in the Accession Register (Day Book) shall be transferred to the individual stock registers maintained at the Section/Department/Laboratory level.
- In the stock registers, a ledger shall be maintained for each item of purchase or entry. An account for each item is thus maintained. An index is also maintained in the stock register.
- In cases of borrowing or lending of any tools/equipment or any other item shall clearly be stated in the stock register in the column remarks. This transfer shall be endorsed by the section heads or HODs while exit and entry.

Stock Verification Procedure:

- It helps to keep updated records for the intactness, performance and cost appraisal purposes.
- It also helps to replenish consumed or defected items.
- Separate teams are constituted to physically verify the stocks in all the sections / laboratories of

each department.

- These teams will verify the physical presence of the items, intactness, performance etc. and provide suitable recommendation with respect to repair and write-off. During verification, the in-charges of laboratories / sections shall cooperate with the verification teams.
- Team members shall be provided necessary information of the stocks for which the physical verification is carried through.
- The individual department / section / labs will prepare a list of laboratories & sections including names of in-charges, items of stocks both consumable & non-consumable etc. and make available copies to the verification teams.
- The team members personally visit each department / laboratory / section and physically verify the stocks as per the information or records or stock register presented by the Heads of the Departments.
- The discrepancies, lapses, physical presence of items, working condition of items, events of lending & borrowing etc. shall be recorded and a comprehensive statement to that extent shall be prepared and submitted to the Principal.
- Stocks shall be verified at least once in a year.

Obsolete Items:

- Separate register / list shall be maintained for obsolete items.
- While posting entries in the stock registers, purchase details like name of item, quantity, cost, manufacturers address, technical specification etc. shall be clearly noted. These details will help to replace the obsolete items and to procure updated versions.