

 <b>MIT</b>   Academy of Engineering <small>(An Autonomous Institute Affiliated to Savitribai Phule Pune University)</small>	<b>R&amp;D Manual</b>	
<b>Alandi (D), Pune – 412105</b>	<b>ACADEMIC YEAR</b>	2024 – 2025
<b>DEPARTMENT – R &amp; D</b>		

### Introduction

Teaching and Research are the main functions assigned to any institute. Teaching is a prime function and needs to be performed at the highest level of competence; that is possible only when the faculty is involved in the research activity.

Research is an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison, experiment, collection of facts or data, analyzing the facts to reach certain conclusions either in the form of solution(s) towards the concerned problem or in certain generalizations for some theoretical formulation. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research.

Research essentially nourishes the academic program and such engagement helps teachers to remain at the cutting edge, with advances in their own subject. It also sustains the interest in academic activities and widens the scope of learning. Importantly, it helps the institute to stand at the global level.

### R&D Cell

The R&D cell comprises of Director, Dean (R&D), Head of departments, IPR Coordinator and R&D Coordinators from various departments in the institute. This committee oversees the smooth and efficient coordination of research and development activities in the institute, thus fostering overall growth. Dean (R&D) heads the cell with an advisory support from Director.

### Aims and Objectives

The institute believes in a judicious combination of teaching and research for the benefit of student community at large. The institute envisages innovation and technological development through its R&D axis. It has plans to cultivate academic and research collaborations with national and international universities, governments and industries to meet the immediate needs of society and industry. The institute also remains committed to long-term research as the foundation for future development.

The institute's serene atmosphere, infrastructure that keeps abreast of global standards and excellent academic facilities coupled with intellectual freedom; richly add to the perfect ambience for conducting cutting-edge research that can make a positive change in the lives of the citizens.

### Aims

- To inculcate the spirit and culture of research amongst all the stakeholders.
- To enhance interaction and cooperation between researchers for interdisciplinary and multidisciplinary work.
- To forge academic and research collaborations with national and international universities, governments and industries.
- To establish links with various R&D organizations and funding agencies for sponsored and contract research.
- To work towards development of MIT AOE as a global R&D centre.



## Objectives

- To enhance the research awareness by organizing national and international conferences, symposia, workshops on research methodology, IPR and patents, talks and discussions with eminent researchers.
- To motivate faculty for doctoral and post doctoral assignments at various national and international universities and organizations of repute.
- To encourage faculty to undertake research projects in, thrust areas in science and engineering funded by various national and international agencies.
- To explore new horizons of knowledge and ensure its practical implementation through collective efforts and quality research work.
- To provide a creative atmosphere, complemented by adequate facilities and resources in which research thrives amongst the faculty and students.

## R&D Activities

The major R&D activities are as follows:

- External Funded Projects
- Publications in peer-reviewed Journals
- Faculty Development Programs, Conferences, Workshops, STTPs, Symposia etc. (attend and organize)
- Procurement of high-end computational and laboratory equipments, and software for Research
- Deputation for Higher Studies
- Talks and Lectures by eminent researchers
- Collaboration and MoU with Industry and R&D Organization related to research work

## Patents

Receiving patent of one's research work is one of the most important and influential factor to judge the quality of research. Full financial and legal assistance shall be provided to those who are interested in registering the patent. The patent shall irrevocably be registered in the name of MIT AOE with the researcher's name prominently featuring as the inventor. The commercial aspects shall be mutually worked out between the institute and the researcher. All basic applications should pass through Department Review Committee (DRC) and Research Review Committee (RRC).

## Funded Projects

The depth of R&D culture, in any institution is judged by the number of grants approved and funds generated via various projects. A large number of new research projects are initiated every year with funding from various national and international governmental organizations and industries. The R&D cell keeps the faculty, abreast of all such announcements for R&D projects and encourages them to submit proposals for funding. All proposals should pass through Department Review Committee (DRC) and Research Review Committee (RRC).

A select few national and international funding agencies are,

- Aeronautical Development Agency (ADA)
- Aeronautical Research & Development Board (ARDB)
- All India Council for Technical Education (AICTE)
- Council of Scientific & Industrial Research (CSIR)
- Department of Atomic Energy (DAE)
- Department of Biotechnology (DBT)
- Defence Research & Development Organization (DRDO)



- Department of Science & Technology (DST)
- Indian Space Research Organization (ISRO)
- Institution of Engineers (India) (IE)
- Ministry of Agriculture and HRD
- Ministry of Communications and Information Technology
- Ministry of Non-Conventional Energy Sources
- Scientific and Engineering Research Board (SERB)
- University Grants Commission (UGC)
- Savitribai Phule Pune University (SPPU)
- National Science Fund, U. S. (NSF)
- Industry - IBM, TCS, Infosys, TATA Motors, Honeywell, etc.

### Publications

- Research and in-depth review papers shall be submitted to peer-reviewed journals (Indexed only by: Scopus, SCI, and web of Science) for possible publication.
- Publication charges (if any) of the research papers published by faculty, shall not be reimbursed by the institute.
- Funded projects can cover a part of the publication charges of research papers.
- All possible manuscripts should pass through Department Review Committee (DRC) and Research Review Committee (RRC).
- Affiliation of MITAOE is compulsory for any type of publication by MITAOE employee.

### Conferences/Workshops/STTP

The funds available to the candidate/applicant to participate at conferences, workshop, STTPs, etc. shall be as tabulated below,

Sr. No.	Type	Financial Assistance	Remarks
1	International Conference (Abroad)	Rs. 1,00,000/- *	Once in 3 years
2	International Conference (India)	Rs. 25,000/-	Once in 2 years
3	National Conference	Rs. 10,000/-	Once in a year
4	National workshop/STTP	Rs. 5,000/-	Once in a year

- \*applicant need to get financial support from various funding agencies like SERB, UGC, SPPU, etc. After getting financial support, the remaining will be supported by institute upto Rs. 1,00,000/-.
- All possible manuscripts for conference should pass through Department Review Committee (DRC) and Research Review Committee (RRC).
- The financial assistance will be given for expenditure against registration fees, travelling expenses, accommodation charges, visa charges, etc.
- Professional development leave will be given to applicant to attend the event outside institute.
- The organizers of events should be of high repute.

Note : The requisite amount within the limits mentioned shall be sanctioned by the Head of Institution, on recommendations of the respective Head of department and review by Dean (R&D). This amount may be claimed from the department R&D budget sanctioned for the said financial year.

### Important Guidelines

All the faculty/staff members who intend to apply for R&D projects and grants, and all those who have obtained approval for their projects from various apex bodies, industries and universities shall follow the work procedure given herewith.

1. Every research proposal shall pass through a multi-tier review, where the proposal shall first be reviewed by the PI/ Co-PI themselves, then by the DRC in the concern



- department. The proposal shall then be vetted by the RRC before submission to the funding agency.
2. It is advisable to have a faculty working in the same field, as Co-Investigator; for every proposal submitted for funding to external agencies.
  3. All applications related with R&D shall be routed through the Dean (R&D) along with one hard copy for R&D records. A soft copy shall also be emailed to the Dean (R&D); and the department R&D coordinator as well as the HOD shall be copied on the email.
  4. Separate dead stock registers shall be maintained for all R&D as well as externally funded projects in every department.
  5. Purchase of instruments, software, etc. and the audit report made for the same shall follow the Finance Officer guidelines.
  6. Principal Investigator and Co-Investigator shall ensure that the instruments, software, etc. purchased are secured in the laboratory/ department.
  7. The entire sanctioned amount shall be utilized as per the guidelines of the funding agency.
  8. In case the Principal Investigator leaves the institute; all the items, instruments, software, etc. purchased shall remain as an asset of the institute.

### **Policy for Procurement and Maintenance**

- The purchase committee for any research project shall comprise of, The Director, Dean Administrator, Dean (R&D) concerned HoD and PI/ Co-PI. Their role is to streamline the purchase requests and gauge its utility; in completion of the project. The said committee shall also look into the recruitment of JRF/ SRF, if any.
- The accounts department shall submit a photocopy of, the sanctioned letter and cheque/ DD to the concerned Principal Investigator (PI) of the research project.
- The P.I. shall immediately plan and apply in writing to the Director, through Dean (R&D) for releasing the funds (towards, travel, contingency, consumables, books, technical assistance, hiring charges, etc. i.e. excluding the equipment cost and salary, if any). The Accounts Department shall immediately release the amount on receiving the sanction from the Principal. The PI shall settle the accounts, for the released amount on or before 31st of January every year.
- The PI shall also plan for purchase of equipments as per the existing purchase procedure of the institute. A minimum of two quotations are necessary for the equipments to be purchased. The only exception to this shall be proprietary items, where the PI has to submit a justification. The entire purchase of equipments for the research project shall be completed, positively by 28<sup>th</sup> February of every year.
- It is advisable; though not mandatory to procure high end equipments from reputed manufacturers with a proven track record.
- All the sanctioned funds shall be spent as per the guidelines of the concerned funding agency.
- All the equipments purchased, shall first be registered in the Stores and then in the DSR of the R&D in the department. This will help to have a uniform procedure and smooth functioning of purchase procedure under R&D. The total expenditure under R&D can then be easily identified.
- In case PI leaves the institute, the Co-PI shall be fully responsible to complete the project as per the guidelines of the concerned apex bodies.
- If the PI is not in a position to continue the project, the PI shall utilize all the funds received as on date and submit the utilization certificate and progress report to the R&D Cell. He shall only then be relieved from his duties.
- The PI/ Co PI shall complete the project by all means within the stipulated period and submit the audited statement of expenditure, utilization certificate and progress report



to the concerned funding agency. A copy of all such documents shall also be marked to Dean (R&D) for records.

### **Seed Money**

Seed money for R&D project shall be distributed by the following procedure:

- Submission of proposal/s to funding agency
- Application for seed money through the respective HOD
- Scrutiny by R&D cell on sanction of the submitted project
- 25 % of the sanctioned project cost by funding agency shall be given as seed money from the department R&D budget.

### **Department Review Committee (DRC)**

This committee (DRC) is formulated to specifically oversee the research proposals by faculty, staff and Post Graduate dissertations at department level. The DRC shall comprise of,

1. Head of Department
2. R&D Coordinator
3. Two faculty as expert (Selected by HoD)

In case of patent applications, DRC comprise of HoD and R&D Coordinator to maintain the confidentiality of innovative idea.

### **Research Review Committee (RRC)**

This committee (RRC) is formulated to specifically oversee the research proposals by faculty, staff and Post Graduate dissertations. The RRC shall comprise of,

1. Dean (R&D)
2. Head of Department (concerned Dept.)
3. R&D Coordinator (Concern Dept)
4. P. G. Coordinator (only in case of PG Projects)
5. Subject Expert/s (Invited by Dean R&D)

In case of patent applications, RRC comprise of Dean R&D and IPR Coordinator to maintain the confidentiality of innovative idea.

All the prospective Principal Investigators should ensure that the research proposal is presented before the RRC well in advance (15 days) prior to the submission. The HoD should ensure that the project work of PG students is presented before the RRC at least 60 days prior to the submission.

It may kindly be noted that, the research proposal of faculty shall be submitted to the funding agency only after presentation to RRC. Similarly, the project work of every PG student shall be submitted to the university, only after the approval by RRC.

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