



**ZEAL
INSTITUTES**

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NARHE | PUNE | INDIA



JUNIOR COLLEGE | ITI | POLYTECHNIC | ENGINEERING | MBA | MCA | Ph.D

POLICY DOCUMENT

RESEARCH POLICY

ZEAL EDUCATION SOCIETY'S

ZEAL COLLEGE OF ENGINEERING & RESEARCH

Approved by AICTE, New Delhic, Recognised by Govt. of Maharashtra and Affiliated to Savitribai Phule Pune University, Pune

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Institute Vision:

To be a premier institute in technical education by imparting academic excellence, research, social and entrepreneurial attitude.

Institute Mission:

- M1: To achieve academic excellence through innovative teaching and learning process.
- M2: To imbibe the research culture for addressing industry and societal needs.
- M3: To inculcate social attitude through community engagement initiatives.
- M4: To provide conducive environment for building the entrepreneurial skills.



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RESEARCH POLICY

INTRODUCTION

Zeal College of Engineering & Research, Pune, envisions fostering a learning environment that emphasizes practical solutions and skill development through applied research. Recognizing the College of Engineering context, research efforts are directed towards addressing technical, pedagogical, and industrial challenges relevant to diploma education, ensuring enhanced learning outcomes, industry readiness, and community engagement. 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, analysing 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 faculty members 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. The role of each of the members can be summarized as,

- ✓ To encourage and motivate faculty for externally funded research and development, interdisciplinary and multidisciplinary research, product design and development, publications in journals of high standing. .
- ✓ To facilitate discussions and collaborations with researchers from other institutes, with the possibility of joint work in various thrust areas of national and international importance.
- ✓ To initiate and promote MOU with industries, Academic and R&D organizations; for consultancy, collaborative research, sponsored projects, industry institute interactions etc.
- ✓ To arrange talks and interactions by eminent personalities from industry, R&D organizations and institutions of repute; for the better understanding of research methodology and practices currently followed.
- ✓ To support faculty for delivering talks at different events and conducting workshops, training programs, seminars, conferences, symposiums, faculty development programs.
- ✓ To visit R&D organizations and disseminate information regarding the effective implementation of research projects in the institute.
- ✓ To suggest peer reviewed national and international journals for subscription in central library as well as department library.
- ✓ To formulate the R&D budget of department in close co-operation with the faculty and the Head.
- ✓ To attend and discuss the progress of R&D in the periodic meeting.
- ✓ To keep everyone abreast of all announcements by various funding agencies like DST, DAE, DRDO, ISRO, CSIR, AICTE, UGC, MSBTE, and the like.



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- ✓ To motivate students for presenting papers in National and International conferences, and projects in competitions and exhibitions. Final year projects can be considered as a mini research project. Interdepartmental / collaborative work to be encouraged positively.

PREAMBLE:

History has shown that educational institutions across the globe have played an indispensable role in the phenomenal progress of humankind. In medicine or space, in technology or economics, battle lines are being drawn. To remain as a vanguard of discovery, one should be inquisitive like a scientist, resourceful like an engineer and creative like an artist. To triumph one needs results; publishable and applicable results. Research and Development (R&D) flourishes where young minds and experienced faculty work synergistically.

At Zeal College of Engineering & Research, R&D is pursued with the following objectives:

1. To acquire new scientific knowledge.
2. To design novel methodologies in all the fields of Engineering and Technology.
3. To develop new tools and techniques to expedite problem solving with special emphasis on rural and socially relevant issues.

The phrase "Research and Development" has a special significance apart from its conventional coupling of scientific research and technological development. As this process is usually associated with innovation as well, the synonym (R + D + I) can also be applicable. In general, R & D activities are conducted by specialized units or centres belonging to companies, academic institutions and state agencies. "Research and Development" normally refers to future oriented, longer-term activities in science or technology, using techniques without predetermined outcomes and with broad forecasts of commercial yield.

At Zeal College of Engineering & Research, these are done to motivate the students and the faculty of the institution, to update the knowledge which leads to further investigation and progress and to give a hand to the industries in their product development. If such an effort does not exist, the growth of science or technology would be static. Knowing this, everyone is encouraged to do academic or industrial research, to involve in innovation or development and to use the knowledge for consultancy with the industries. Research, Development and Consultancy go hand in hand. All disciplines of the college are actively engaged on Research, Development and Consultancy activities. The R & D cell of this college would be active in registering for patents, copyrights, publications in conferences, organizing conferences, seminars and workshops.

All disciplines of the college would be engaged in R&D and consultancy activities. The R&D cell of this college would be active in registering for patents, copyrights, publications in conferences, organizing conferences, seminars and workshops. Faculty and students have been encouraged to be creative, since it is the creative aspect that induces newer thinking. Lectures and Demonstrations are made both for students and faculty to kindle their spirit of creativity both by our own faculty and from experts.

To initiate contacts among researchers both in India and abroad, conferences would be mandatorily arranged. The faculty members and students would be encouraged to attend seminars and conferences conducted elsewhere. This would boost up the activities on research, in this institution.

AIMS:

1. To create research awareness among the faculty and students
2. To enhance team work between researchers for interdisciplinary research



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3. To establish links with different Industries, R&D organizations, which provide funding for research activities.
4. To involve every faculty member in R&D activities, which lead to M.E & Ph.D. degree and research proposal writing.
5. To enhance the research awareness by conducting various national level and international level workshops and conferences and guest lectures.
6. To establish the fruitful collaboration and interaction with researchers working on interdisciplinary research

OBJECTIVES:

The Research Promotion Scheme of Zeal College of Engineering & Research aims to nurture research culture in the institute by promoting research in newly emerging and challenging areas of science and engineering. It encourages the diploma students to undertake the research in newly emerging frontier areas of science and Engineering including multidisciplinary fields. This enhances the general research capability of budding technocrats by way of participating in conferences, seminars, workshops, project competition, etc.

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. (attending and organizing)
- ✓ Procurement of high-end computational and laboratory equipments, and software for Research
- ✓ Deputation for Higher Studies
- ✓ Talks and Lectures by eminent researchers
- ✓ Industry Institute Interaction (Students and Faculty)
- ✓ Collaborations and MOUs with Industry, Academic and R&D Organizations.

High ethical standards should be maintained in all aspects of research activity, publication, and patenting. Any research article or thesis submitted to an institution for evaluation or publishing should be required to undergo plagiarism verification using the appropriate tools.

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 as per government Norms shall be provided to those who are interested in registering the patent. The patent shall irrevocably be registered in the name of Zeal College of Engineering & Research with the researcher's name prominently featuring as the inventor. The commercial aspects shall be mutually worked out between the institute and the researcher.

CONFERENCES AND WORKSHOPS

The funds will be made available to the Faculty members to participate at conferences, workshops, STTPs, etc. 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 R&D Coordinator. This amount may be claimed from R&D budget sanctioned by the institution for the said financial year.



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CODE OF CONDUCT, RESEARCH GOVERNANCE, AND ETHICS

Faculty and staff at Zeal College of Engineering & Research are expected to uphold the highest standards of ethics while executing their duties. Faculty members must foster an atmosphere of sincerity and trust, ensuring the authenticity and integrity of the scientific work presented to the institute and the community. This includes truthful representation of data, unbiased interpretation, and acknowledgment of uncertainties without fabricating or manipulating information.

When referencing others' work, all members of Zeal College of Engineering & Research must duly recognize and acknowledge prior contributions, irrespective of the contributors' designation or role, including students and assistants. Written consent is required for publishing work or collecting data involving personally identifiable information, ensuring confidentiality and anonymity as needed.

Maintaining professional integrity and scientific accountability is paramount. Researchers must perform comprehensive pre-literature reviews of patents and publications to build upon existing knowledge, avoiding duplication or infringement of others' contributions. Faculty and students should ensure that their work is their own and appropriately referenced, using similarity-checking tools like "Turnitin" to maintain originality.

Respect for individuals' rights, dignity, and cultural sentiments is essential in all research activities. Faculty and staff must avoid any communication or representation that could harm religious or social sensibilities while presenting facts or interpreting results.

Environmental responsibility must guide all research activities, ensuring that the work does not harm the ecosystem or contribute to future calamities.

RESEARCH PROJECTS, DATA, AND PUBLICATIONS

Faculty and students are expected to adhere to the following guidelines in their research activities:

- ✓ Ensure the accuracy, authenticity, and reliability of data.
- ✓ Comply with all institutional and university procedures and requirements.
- ✓ Store data systematically for future research use while adhering to confidentiality and anonymity requirements.
- ✓ Screen all research data, theses, and publication materials for similarity using "Turnitin." A similarity index exceeding 15% must be addressed with the department heads.
- ✓ Publish in reputable journals and conference proceedings approved by Scopus, Springer, or the UGC, and avoid predatory journals.

Faculty are encouraged to inspire students to engage in multidisciplinary STEM projects that address sustainable solutions to socio-economic challenges. Converting academic research into innovative technologies and enterprises is highly encouraged.

The research team, comprising experienced faculty at **Zeal College of Engineering & Research**, should focus on topics addressing industrial and societal challenges. Collaborations with external experts, policymakers, and organizations like CII and FICCI through seminars and symposiums can help identify and explore applied research areas.

CONSULTANCY, CONTRACTS, AND INTELLECTUAL PROPERTY

Engagements with external organizations should be formalized through contracts, including collaborations, consultancies, or discussions involving confidential information. Adherence to Non-Disclosure Agreements (NDAs), Material Transfer Agreements (MTAs), and other legal undertakings is mandatory.



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The Research Development Team provides guidance on engaging with industries through consultancy, knowledge transfers partnerships, and collaborative research. For legal support with drafting contracts or intellectual property activities, faculty must contact the Principal, who will arrange the necessary assistance.

The Principal will advocate for support from the management for research commercialization efforts. Faculty members are encouraged to sign Memoranda of Understanding (MoUs) with industries to promote joint research, innovation, and student employability through exposure to the latest tools and techniques.

Faculty must actively seek internship opportunities for students and generate funds from government and private-sector projects to support academic research and entrepreneurship.

RESEARCH FINANCE

The Research Finance Team oversees the management and compliance of all research grants. This team supports both faculty and students in delivering high-quality, timely research outcomes while adhering to internal financial regulations. A dedicated R & D coordinator will serve as the single point of contact for all projects. Faculty and students are advised to coordinate all financial aspects of research projects with the R & D coordinator for efficient planning and execution.

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.

IMPORTANT GUIDELINES

All the faculty 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.

- ✓ 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 concerned Head/ experts in the department, followed by other eminent researchers in the field. The proposal shall then be vetted by R&D Cell before submission to the funding agency.
- ✓ It is advisable to have a faculty working in the same field, as Co-Investigator; for every proposal submitted for funding to external agencies. The faculty proposed as Coinvestigator, shall preferably be from the same department as the Principal Investigator.
- ✓ All applications related with R&D shall be routed through the R & D Coordinator along with one hard copy for R&D records. A soft copy shall also be emailed to the R & D Coordinator; and the department representative in R&D cell as well as the HOD shall be copied on the email.
- ✓ Separate dead stock registers shall be maintained for all R&D as well as externally funded projects in every department.
- ✓ Purchase of instruments, software, etc. and the audit report made for the same shall follow the Accounts Department guidelines.
- ✓ Principal Investigator and Co-Investigator shall ensure that the instruments, software, etc. purchased are secured in the laboratory/ department.
- ✓ The entire sanctioned amount shall be utilized as per the guidelines of the funding agency.



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- ✓ 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 Principal, R & D Coordinator 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 Principal, through R & D Coordinator 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 March every year.
- ✓ The PI shall also plan for purchase of equipment's 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 within one month of receiving the grant for the same from the management or the funding agencies.
- ✓ 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 Head (R&D) for records.