



KJ's Educational Institutes

Trinity Academy of Engineering

Pune – 411048



Research & Development Cell

Policy Document

Prepared By

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1. Research & Development Cell

Research at Trinity Academy of Engineering, Pune has always been given the pride of place, be it in the domain of teaching students or the professional goals of the faculty. Research, in this sense, has been intertwined with all curricular activities of students and the faculty alike. For students, the message that is conveyed is of research as a way of life.

TAE, Pune 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 Research & Development cell. 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 the industry. The institute also remains committed to long term research as the foundation for future development.

The aim of R&D Cell is to develop and foster manpower training and capacity building in areas where weaknesses exist. It will deliver fruits of research to the society as quickly as possible.

R&D Cell has internal controls that include policies, procedures, training, and peer review. However, R&D Cell should improve how it evaluates the effectiveness of its policies and procedures for scientific integrity and research misconduct

2. Research & Development Awareness & its Policies

Research & Development is heart of engineering colleges and needs to flourish. Create a awareness and motive of research among faculties and students certain awareness policies are developed and these are outlined as below,

- R&D Workshops: National and international workshop (may be generalized or domain specific) are to be conducted time to time in individual departments and centrally for institute.
- R&D awareness seminars: Seminar series by renowned personalities from industry and R&D centers across India and abroad time to time.
- Exhibition of projects developed by PG/UG/PhD Students and Projects and models developed by Faculties.
- Encouragement to faculties and students to attend workshops /seminars / conferences held at other institutes and R&D centers such as IITS and IISC.
- Different awareness programs are to be included and conducted by committee time to time as per requirement of current status of research and technology developments

3. Organization of R&D Cell

The Research and Development Cell is established to promote research activities of TAE, Pune. The Cell will monitor and administer Research activities undertaken during B.E. and M.E. courses offered by the University and faculty research contributions.

The R&D cell comprises of faculty members from various departments in the institute. This committee oversees the smooth and efficient co-ordination of research and development activities in the institute, thus fostering overall growth. A senior faculty heads this cell in the capacity of Coordinator - R & D, with the Principal providing advisory support. Research Committee has been formed, Central R&D Committee

This Committee will contribute towards enhancing the inputs to research and developments at TAE. The R & D Committee will plan, promote & evaluate R& D activity like R&D projects, UG projects, etc. at the institute level. The committee meets once in every six months to discuss the status of ongoing projects & to plan for the future one. All records are prepared & maintained by Principal's office. The Committee is formulated as:

Chairman : Principal

Co-Chairman : Coordinator of R & D.

Members from each department as below

Organizational structure of R&D Cell is outlined as below,

Sr. No	Name Of Faculty	Department	Designation
1	Dr. R. J. Patil	Principal	Chairman
2	Dr. M. K. Chaudhary	Mechanical	Coordinator
3	Prof. Sumaira Shaikh	IT	Member
4	Prof. Jyoti Deshmukh	Computer	Member
5	Dr. Trupti G. Thite	E&TC	Member
6	Mr.Kiran Ghorpade	Civil	Member
7	Dr. Swagat Ebhad	Eng.Sci.	Member
8	Dr.Kapil Misal	MCA	Member

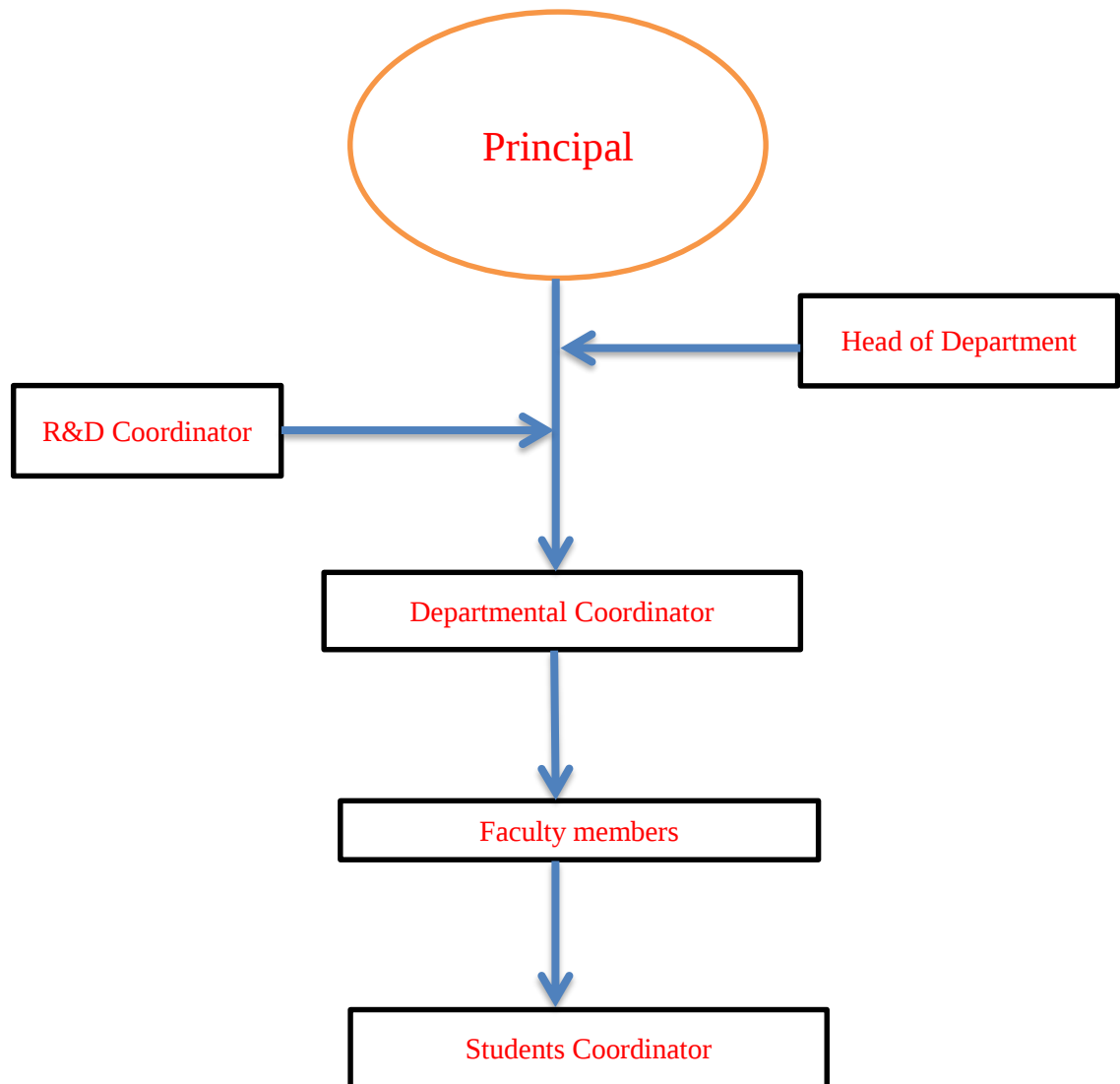


Figure 1: Working Structure of R&D cell

4. Responsibility of the members towards R & D

- I. 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.
- II. 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.
- III. To initiate and promote MoU with industries and R & D organizations; for consultancy, collaborative research, sponsored projects, industry institute interactions etc.
- IV. 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.
- V. To support faculty for delivering talks at different events and conducting workshops, training programs, seminars, conferences, symposiums and faculty development programs.
- VI. To visit R&D organizations and disseminate information regarding the effective implementation of research projects.
- VII. To suggest peer reviewed national and international journals for subscription in central library as well as department library.
- VIII. To keep everyone abreast of all announcements by various funding agencies like Department of Science and Technology, Department of Atomic Energy(DAE), Defense Research & Development Organization (DRDO), Indian Space Research Organization (ISRO), Council of Scientific and Industrial Research (CSIR), All India Council for Technical Education(AICTE) , University Grants Commission (UGC), University of Pune(UoP) etc.
- IX. To motivate students for presenting technical papers in National and International conferences and projects in competitions and exhibitions. B.E. projects can be considered as a mini research project.
- X. To encourage and organize R&D Interdepartmental / collaborative work positively.

5. Aims & Objectives of R&D Cell

Aim:

- *The R&D cell is to assist the faculty and students for research and support for innovation and to provide healthy environment*

Objectives

The R&D Cell is responsible for assisting the faculties and students in the performance of the Institute's research and development, and academic and research training activities. This includes the development, review and monitoring of achievements under the Research & Development, and those aspects of other university/Institute Plans

- To motivate students and faculty members towards research and innovation
- To promote research culture in various departments of the institute
- To create centers of Excellence in the area of research and Innovation in all the departments
- Collaboration with industries for mutual benefits
- Identify R&D projects by collaborating with other universities, public and private sector companies
- To work closely with industries to develop products and to improve process/systems or services that will help industry
- To encourage and support student and faculty members to publish research papers in journals of index
- To ensure functioning of R&D cell at the institute through effective monitoring process
- To promote students and faculty members for filing patents and commercialize the product
- The provision of research and development opportunities for academic staff to maintain enthusiasm, awareness of current scholarship and relevance in teaching and other Institutional activities.
- The development of infrastructure conducive to promoting the quality and quantity of research and development.
- Monitor the application of Research Funds to ensure that the funds are properly and formally accounted for.
- To monitor and enhance the quality of research programs, projects and the research infrastructure within Institute, including the training of research scholars.
- Monitor the research and development performance of individuals, groups, Centers, Schools and Faculties to encourage excellence and productivity through maintaining a database of research and development activities.

6. Roles, Recommendations and Implementation:

- The committee recommends and gives all support to seek research projects sponsored by various Government, non-Government organizations and research funding agencies such as UGC, DST, AICTE, ISRO, BCUD- SPPU etc.
- Administrate specialized workshops/ conferences/ seminars sponsored by UGC, AICTE, etc.
- Promote joint collaborative Inter-Disciplinary Research activities
- It recommends forming four research laboratories for carrying out research work in the Institute for the benefit of Institute and society.
- Arrange In-Campus workshops for motivating and aiming to trigger creativity and innovativeness among the students and faculty members particularly in patenting, which results in potential growth
- Administrate joint collaborative programs by identifying scope for signing MOUs with national as well as multinational industries and academic/research institutions to strengthen the collaborative research efforts
- Administrate the promotion of institute-industry interactions by providing a helping hand in establishing collaborative research
- Partnerships for conducting creative and advanced research in emerging areas of interest to the industry
- Administrate to establish registered Institute Research Centre for eligible departments from the affiliating University (SPPU)
- To assist in matters related to collaborative research with other agencies.
- Implementation, follow-up, progress and monitoring of on-going projects

7. Infrastructural Facilities

R&D cell will provide following infrastructural facilities to conduct research at TAE premises.

- A. R&D cell allocated individual research labs for each department as space requirement. Faculties and students those are involved funded, sponsored projects are encouraging to use the space allocated to each department as research center.
- B. Each research center has appropriate computational facilities with more advanced updated computational software's to execute research work and simulation work.
- C. During execution of funded projects lab equipment's will be purchased these equipment's (such as DAQ systems, microcontroller, sensors, actuators etc.) will be very much useful for other projects also. R&D cell will have made available these equipment's to other research projects also.
- D. A well-equipped library with more than 24000 Books, and e-journals by IEEE ASPP, Science Direct, Springerlink, J-Gate, Mc-Graw Hill access and ASTM digital Library access with 80 plus printed national and international journals.
- E. Softwares like Qualnet, ANSYS, ABACUS, HYPERWORKS, Automation Studio, MATLAB, AutoCAD, Oracle, DB2, etc are available.
- F. Four research laboratories are available all the day for potential researchers to do their research work.

8. Patent Cell Policy

IPR cell of TAE, Pune is to be constituted to provide learning cum interactive interface for intellectuals, engineers, scholars and professionals interested in Intellectual Property Rights, especially in the context of India. The main objective of this IPR cell is to create awareness and provide guidance to academic and non-academic staff of institute including students on the practices i.e. various forms of IPR, and the rules and regulation of intellectual property rights (IPRs) especially patent filing. Cell will endeavor to create understanding about general IPRs like Trademarks, Patents, Copyrights and Designs, and unconventional rights like Geographical Indications, Plant Varieties and Topographies of Circuits by collaborating various organizations and eminent personnel who are actively involved in IP management.

R&D Cell will provide guidance, support and resources to all faculties and students and also facilitates protection and deployment of intellectual property. In achieving this goal, R&D Cell creates awareness of the importance and role of IP Rights, implements the IP policy, ensures transparency and fairness of the IP policy to encourage compliance, solicits feedback regarding the fulfillment of the IP policy and periodically reviews the Policy to improve upon any shortcomings, strengthens the infrastructure and resources for protection and exploitation of IP and makes available expert inputs.

Issues of ownership, confidentiality, disclosure, patentability, technology transfer, revenue sharing, and conflict of interest among others play a very important role in any IP management. R&D Cell will conduct workshops to enhance awareness on related issues. R&D cell will also provide templates and guidelines for the contracts, agreements and MOUs governing the effective exploitation of the IP produced by TAE, Pune Faculties and Students. All such agreements and matters relating to confidentiality, infringements, damages, liabilities and compliance will be administered by R&D Cell.

8.1 Commercialization of Patented Work

Technology and inventions are important parts of the innovation process, which transforms inventions into marketable products. This process is most complex and as such requires much specialized professional expertise and expert knowledge. The final phase of the innovation process is the marketing and commercialization phase which is crucial for the success of any invention and innovation.

8.2 Support for Commercialization Of Inventions: The Final Stage Of The Innovation Process

In innovation process it consists basically of four overlapping and interrelated main phases: the idea generation and conception phase, the development and design phase, the prototype and pre-production phase, and the production, marketing and commercialization phase. Institute supports this all three phases of commercialization.

- R&D Cell will help in generation of data base, knowledge base of technology and industry interaction, which is very much beneficial for commercialization of any invention.
- The crucial point in the innovation process is the production, marketing and commercialization stage, when the invention or the new product or process based on it will meet the test of the market. It is only when it is accepted on the market by the consumers and users that the invention or new product will begin to generate income which will compensate inventors and manufacturers for the investment made and eventually generate also some profit.
- R&D cell will help faculties, students in providing a market survey, manufacturing support (in collaboration with industry).
- The innovation process is not a linear process and its different components overlap and interact in a considerable degree. Thus the commercialization and marketing of an invention could be initiated at a very early stage of its development, e.g. already during the idea generation and conception phase. However, for the inventor or his company it is not advisable to begin commercialization at such an early stage and at least not before having filed a patent application. The price offered for such an inventive concept would be very low, if any, regardless of its ingenuity and market potential, since a lot more of development work will have to be done, before the invention may be used in practice and could generate any income.

9. Outside World Interaction of Faculties and Students

To promote and encourage research into institute following rules and regulations are developed for faculties and students to interact with outside world (i.e industry, other institutes, research centers etc.)

- Faculties should be encouraged to participate and engage themselves in research activities (workshops, seminars, conferences etc.) conducted at different institutes and R&D centers.
- Students should be allowed to attend seminars, conferences and workshops organized by different organizations across the India
- Faculties those involved in funded research work should be provided appropriate flexibility in terms of academic workload.
- Faculties involved in R&D project work should be provided autonomy in terms of financial expenditure, workload adjustments to execute research work within prescribed time period.