

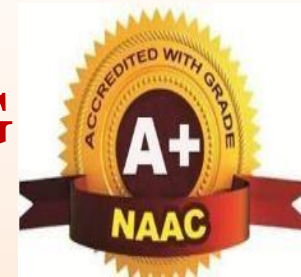


KJ's Educational Institute

TRINITY ACADEMY OF ENGINEERING

(Approved by AICTE, New Delhi, Govt. of Maharashtra & affiliated to SPPU, DTE Code: EN6634)

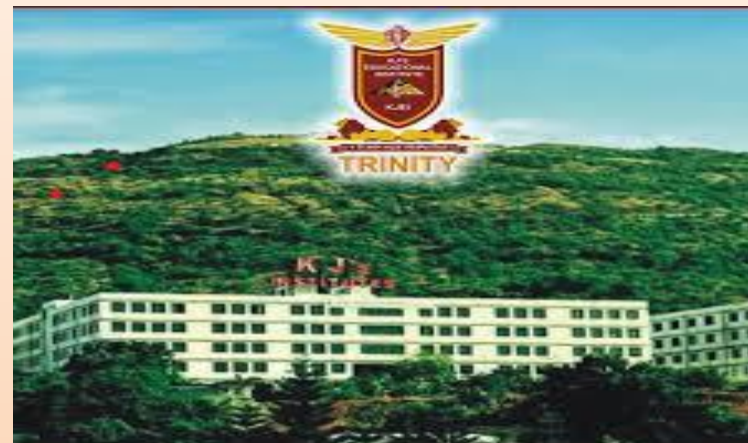
(Accredited by NAAC with 'A+' Grade)



Hon. Shri. Kalyan Jadhav
Founder President, KJEI, Pune

*Research and
Development Cell (R&D)*

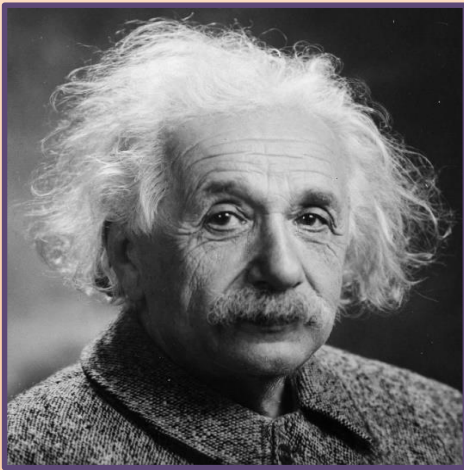
Nurturing creativity in aspiring minds...



Creative thinking should become your capital asset, no matter whatever ups and downs you come across in your life...



Dr. A. P. J. Abdul Kalam



Scientific research can reduce superstition by encouraging people to think and view things in terms of cause and effect...

Dr. Albert Einstein

Sr. No.	Title	Page No.
1	Leadership Information	4
2	Principal's Message	5
3	About Research and Development and R&D Team	6
4	Research Activity -Summary	7
5	Research Potential (Research Publication/Conference papers/Patents/Books)	8-12
6	International /National Conference Conducted	13-16
7	National Level Project Competitions (Hackathon)	17-19
8	State Level Project Poster Competitions (Avishkar)	20-21
9	University Level Project Presentation	22-23
10	College Level Project Presentation	24-25
11	College Level & National Level Project Presentation (Gravity-2026)	26-30
12	Specialized Research Areas for Strengthening R&D Culture	31-33
13	Technical Session/FDP/STTP and Final Year Project	34-37
14	Student & Faculty Achievements, Media Coverage of R&D Activities	38-40

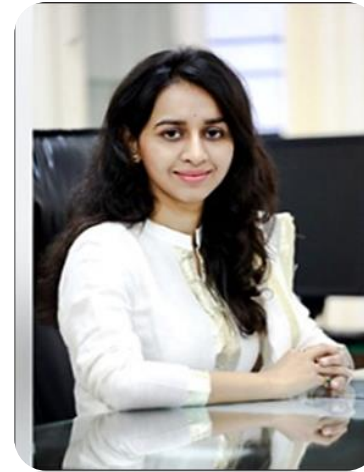
Leadership Information



Hon. Shri Kalyan Jadhav
Founder President,
KJEI, Pune



Shri Vinod K. Jadhav
Treasurer,
KJEI Pune



Mrs. Harshda V. Jadhav
Managing Director,
KJEI Pune



Miss Vibhavari K. Jadhav
Managing Director,
KJEI , Pune



Maj. Gen. Sameer Kalla,
Executive Director,
KJEI, Pune



Dr. Ajay Fulambarkar,
Technical Director,
KJEI, Pune



Dr. Hemant Deshmukh,
Dean, Student
Development & Welfare,,
KJEI, Pune

❑ VISION

To be a premier knowledge centre of the nation for socio-economic development

❑ MISSION

To provide education that combines rigorous academics with joy of discovery through sustained efforts and dynamic strategies in building innovative, participatory, problem based learning practices and research that leads to capacity building of the students.



Dr. Rupesh J. Patil
Principal
Trinity Academy of
Engineering, Pune

It gives me immense pleasure to present the **Research & Development (R&D) Booklet of Trinity Academy of Engineering, a NAAC A+ Accredited institution**. Research and innovation are the key drivers of technological advancement and sustainable development. Our institute continuously strives to create a vibrant research culture that promotes creativity, critical thinking, and problem-solving abilities among students and faculty members.

We are committed to encouraging quality research, innovation, entrepreneurship, and industry collaboration through various activities such as funded projects, research publications, patents, workshops, conferences, hackathons, and incubation initiatives.

I appreciate the dedicated efforts of our faculty, researchers and students whose achievements reflect the institute's commitment towards academic excellence and technological innovation.

I am confident that this initiative will inspire all stakeholders to actively contribute towards research, innovation, and nation-building.

"Wishing you all the success and bright future"!

The Research & Development (R&D) Cell of Trinity Academy of Engineering promotes research, innovation, and technological advancement among students and faculty members. The cell encourages research publications, patents, funded projects, entrepreneurship, and industry collaboration to strengthen academic and professional excellence. Various activities such as workshops, seminars, conferences, hackathons, FDPs, and expert lectures are regularly organized to enhance research aptitude and technical skills. The institute believes in integrating teaching with research for holistic development. Through continuous support and collaboration, the R&D Cell aims to develop innovative solutions for societal and industrial needs while fostering lifelong learning and innovation culture..

About R&D Cell



Dr. M. K. Chaudhary
Mechanical Engg.
Committee Head

Aim:

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

Objectives:

- Motivate Students & Faculty towards Research.
- Promote Research culture.
- Enhance the quality of research.
- Collaboration with industries for mutual benefits.
- Encourage and support students & faculty members to publish more research papers.
- Promote students and faculty members for filing patents and commercialize the product.



Prof. K. H. Ghorpade
Civil Engg



Prof. Jyoti Deshmukh
Computer Engg.



Dr. Trupti G. Thite
E&TC Engg.



Prof. Sumaira Shaikh
IT Engg.



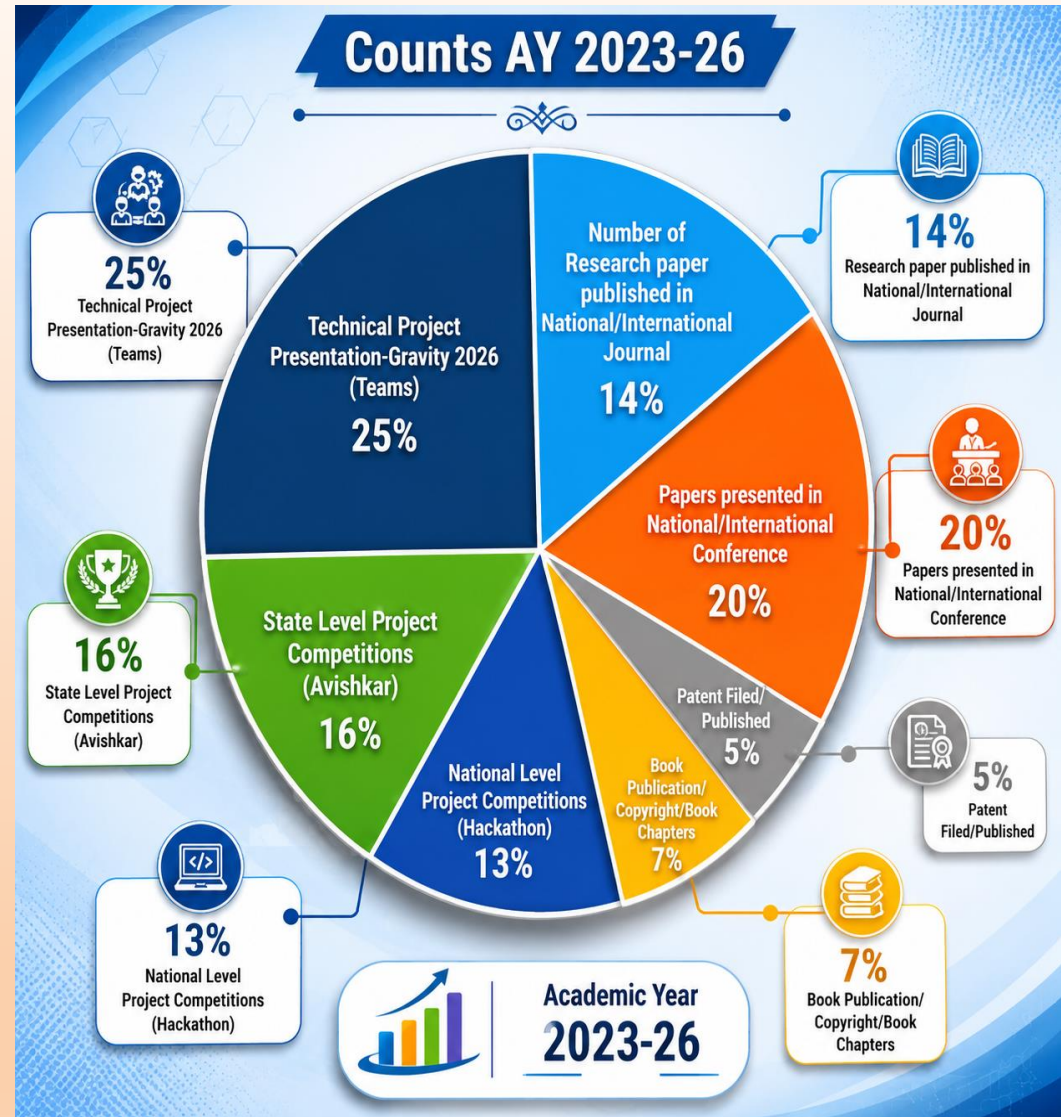
Dr. Swagat Ebhad
Engg. Science



Dr. Kapil Misal
MCA

Committee Members

Research Activity	Counts Last Three Years
Number of Research paper published in National/International Journal	303
Papers presented in National/International Conference	445
Grants received from Government and Non Government agencies (INR) in Lakhs	71.40
No. Patent Filed/Published/Granted	101
No. Book Publication/Copyright/Book Chapters	156
National Level Project Competitions (Hackathon)	276
State Level Project Competitions (Avishkar)	346
Number of International/National Conference Conducted	07
Number of collaborations/ linkages for Faculty student exchange	64
Technical Project Presentation-Gravity 2026 (Teams)	529



Research activities lead to outcomes such as innovative projects, prototypes, research publications, patents, and real-world technological advancements.

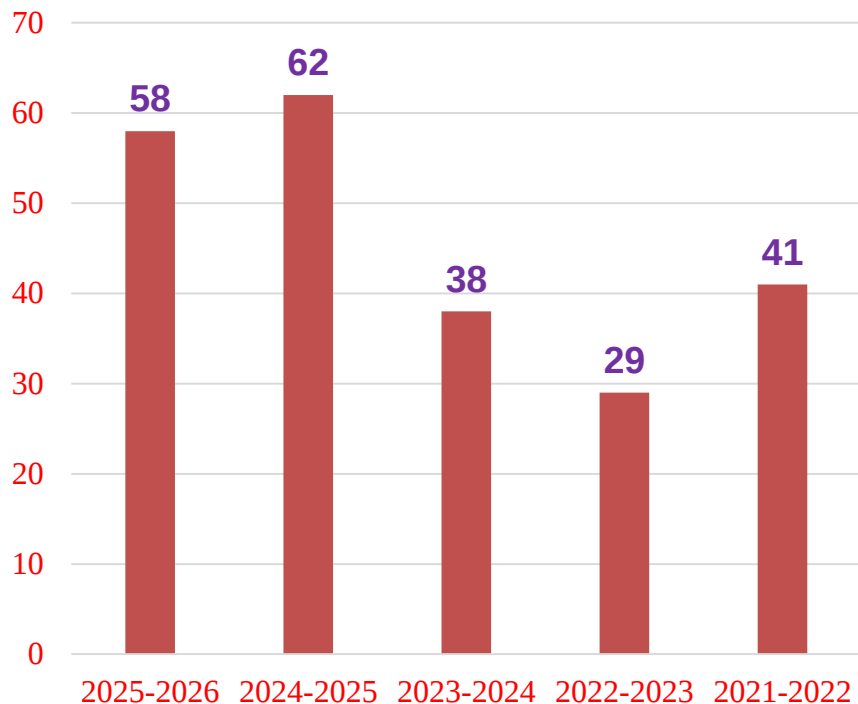
RESEARCH POTENTIAL

Trinity Academy of Engineering, Pune have strong research potential in publications, conference papers, patents, funded projects, book chapters, and book publications through innovative research, industry collaboration, faculty expertise, and student participation, leading to enhanced R&D culture, institutional reputation, and academic excellence.

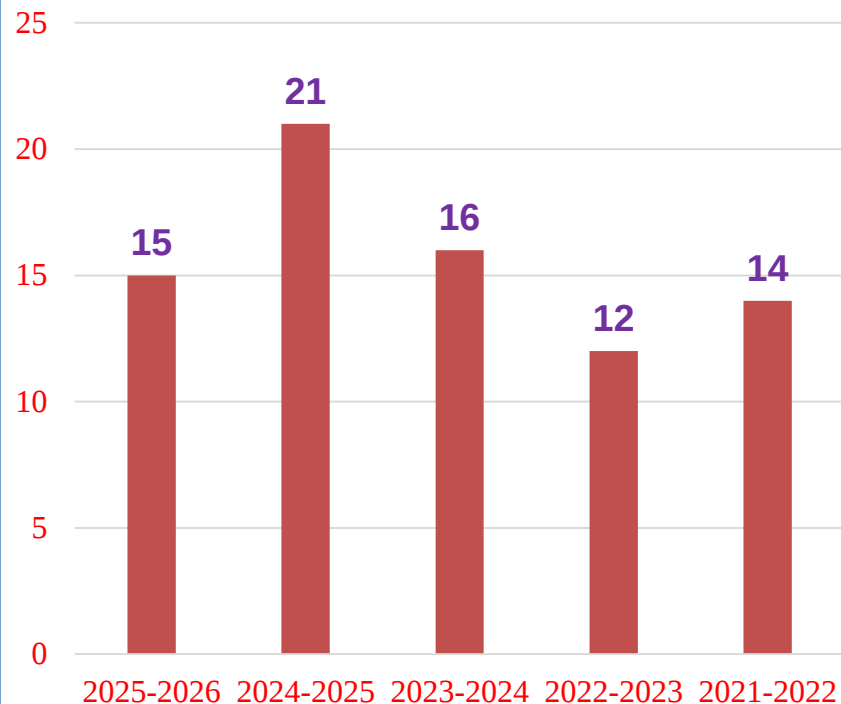
A **research paper publication** is the process of writing and publishing original research finding.

Research Paper Published in International/National Journals

Number of Research paper published in International Journal



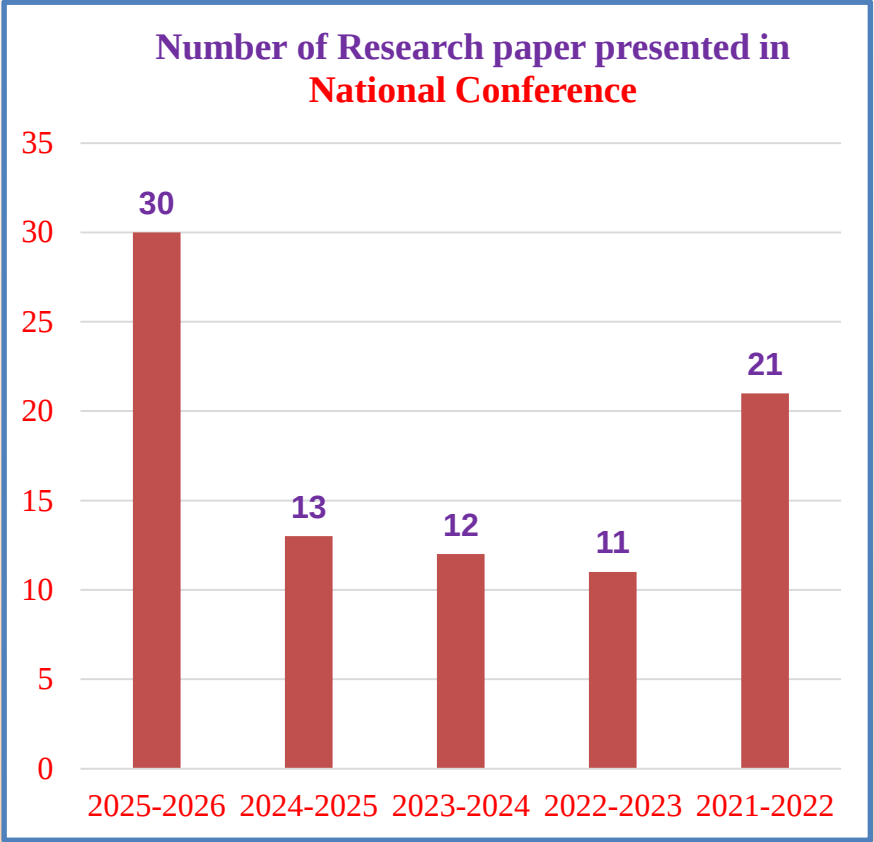
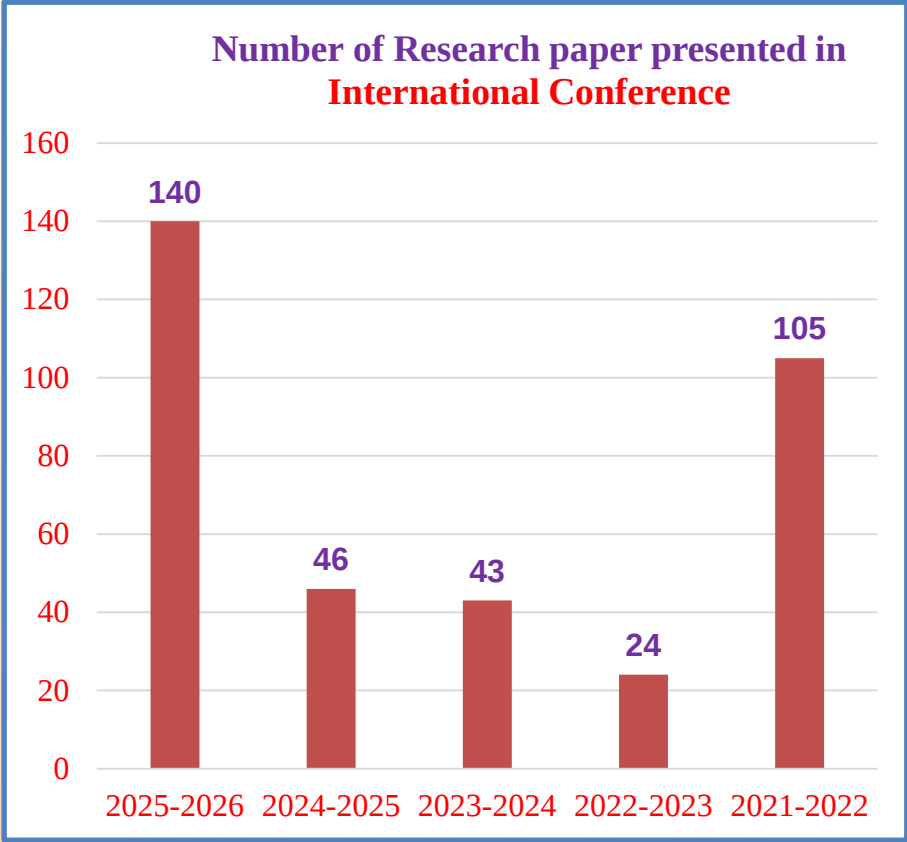
Number of Research paper published in National Journal



Sr. No.	Types of Journal Papers in International / National Journals	Number of Research paper published in National/International Journal				
		2025-2026	2024-2025	2023-2024	2022-2023	2021-2022
1	International Journal	58	62	38	29	41
2	National Journal	15	21	16	12	14
Grand Total		303				

A conference research paper publication is the process of presenting and publishing research work.

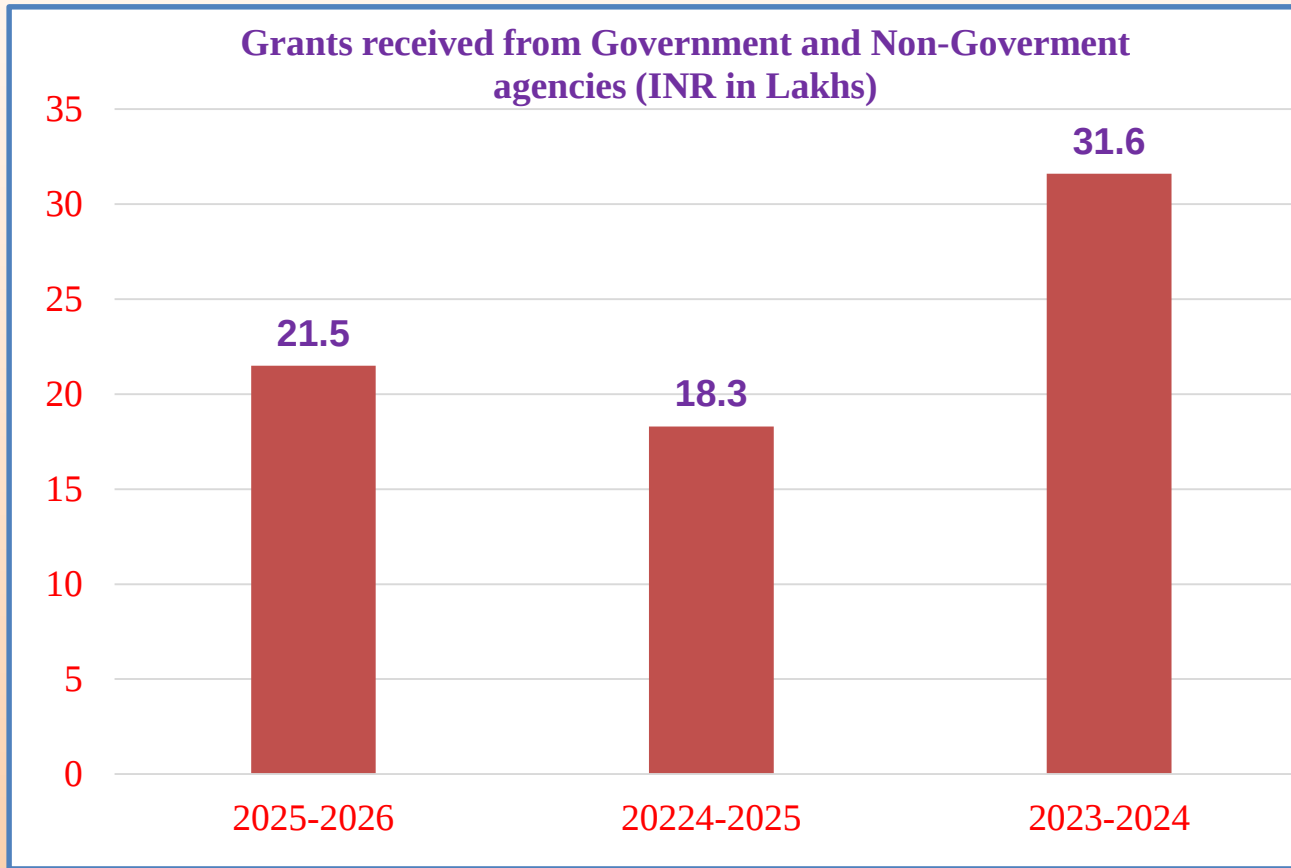
Research Papers presented in International/ National Conference



Sr. No.	Types of Research Papers presented in International/ National Conference	Papers presented in National/International Conference				
		2025-2026	2024-2025	2023-2024	2022-2023	2021-2022
1	International	140	46	43	24	105
2	National	30	13	12	11	21
Grand Total		445				

Grants and funds in engineering are financial support provided by government and private organizations to promote research, innovation, and development projects in technical education.

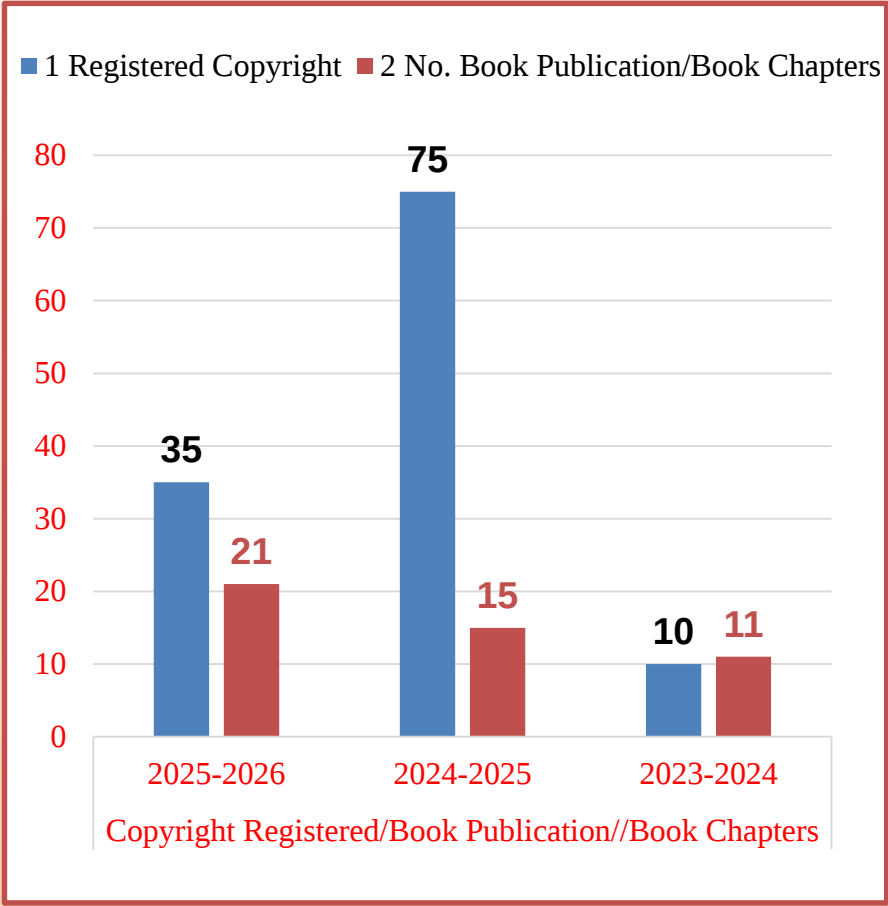
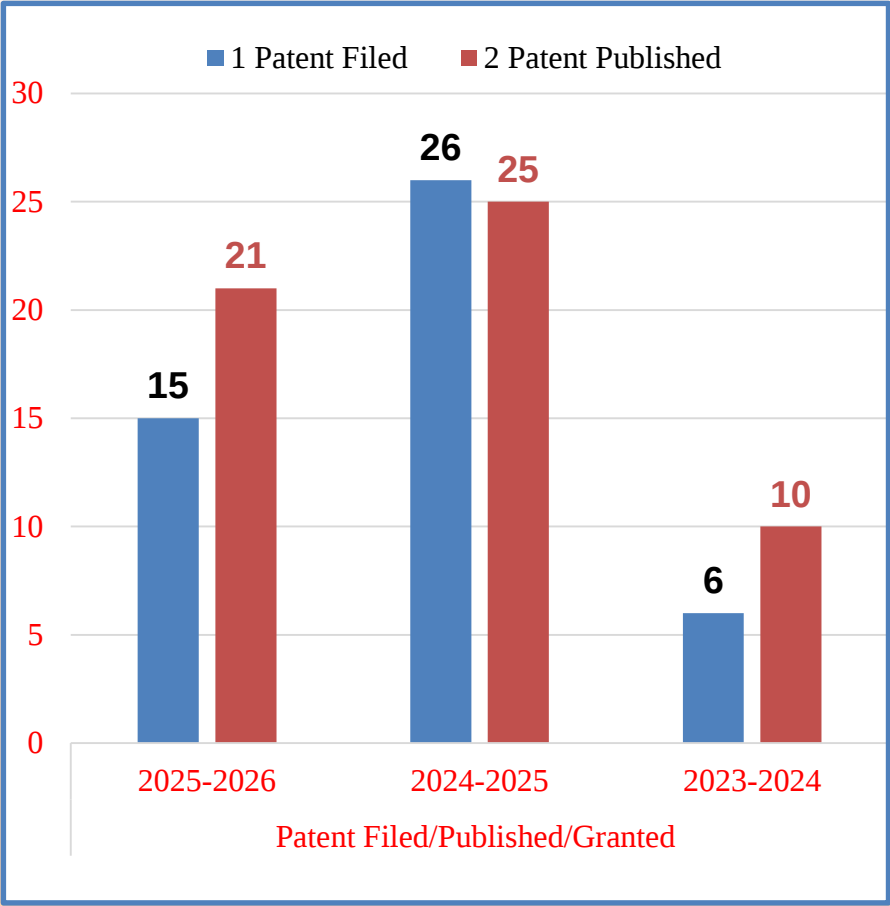
Grants received from Government and Non Government agencies (INR in Lakhs)



Sr. No.	Year	Grants received from Government and Non Government agencies (INR in Lakhs)		
		2025-2026	20224-2025	2023-2024
1	Grants received INR in Lakhs	21.50	18.30	31.60
Grand Total		71.40 (INR in Lakhs)		

A **patent** protects a new invention with exclusive rights, a **book chapter** is a research contribution in an edited book, and **copyright** protects original work from unauthorized use

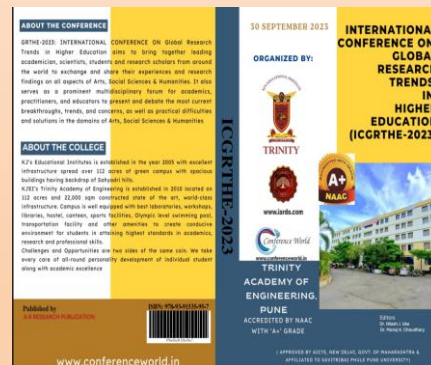
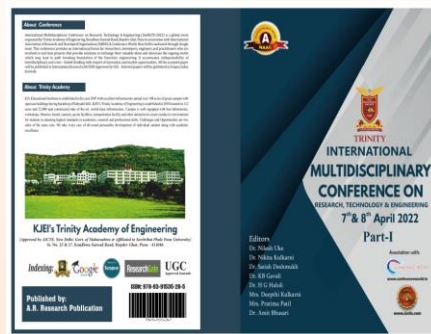
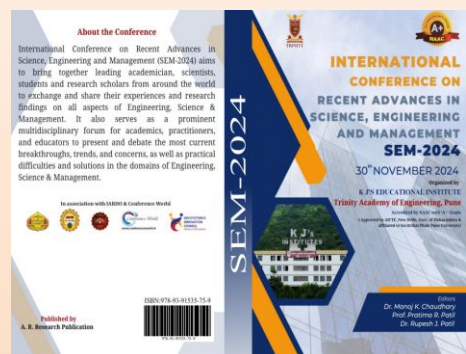
No. Patent Filed/Published/Granted & No. Book Publication/Copyright/Book Chapters



Sr. No.	Intellectual Property/Patent	Patent Filed/Published/Granted		
		2025-2026	2024-2025	2023-2024
1	Patent Filed	15	26	06
2	Patent Published	21	25	10

Sr. No.	Copyright, Book Chapter & IPR	Copyright Registered/Book Publication//Book Chapters		
		2025-26	2024-25	2023-24
1	Registered Copyright	35	75	10
2	Book Chapters/Publication	21	15	11

International conferences enhance research culture, innovation, technical knowledge, and global collaboration in engineering colleges while improving academic reputation and publication opportunities.



Conferences in engineering colleges promote research, innovation, technical knowledge, industry interaction, and academic collaboration among students and faculty.

International /National Conference Conducted

Sr. No.	Conference Title	National/International
1	International Conference On Recent Advances In Science, Engineering And Management (SEM-2024)	International
2	International Conference On Global Research Trends In Higher Education (ICGRTHE-2023)	International
3	International Conference On Science, Engineering & Technological Innovations (ICSETI-2023)	International
4	National Conference On Multidisciplinary Approaches In Arts, Social Sciences & Humanities (ASH-2023)	National
5	National Conference On Multidisciplinary Approaches In Engineering, Science & Management (ESM-2023)	National
6	International Multidisciplinary Conference On Research, Technology & Engineering [ImCReTE 2022]	International



(ISBN: 978-81-999684-1-7)

ImCReTE-2026, organized by Trinity Academy of Engineering on 11th April 2026, is an international conference that provides a platform for academicians, researchers, industry experts, and students to share innovative ideas and research in Science, Engineering, and Technology.

Chief Guests & Guests of Honor



Dr. Eknath B. Khedkar
Vice President, Ajeenkya DY. Patil Group, Pune



Dr. K. S. Charak
Pro-Chancellor, Langbustech University, USA



Dr. Suhas Deshmukh
Director, NCVET, New Delhi

Keynote Speaker



Dr. Ranjana. U.K. Piyadasa
University of Colombo, Sri Lanka



Research paper details:

Abstract Submitted: 275

Abstract Shortlisted: 225

Paper presented in Offline Mode: 148

Paper presented in Online Mode: 54

Total Paper Selected for Proceeding : 202

Conference speeches were delivered by the KJEI-President, Director- Executive, Director-Technical and Principal-TAE, highlighting the importance of research, innovation, academic excellence, and industry-oriented learning/

SEM Conference 2025 promoted research, innovation, technical knowledge sharing, and collaboration among academicians, researchers, industry experts, and students.

International Conference-2025



The Conference Proceedings were officially released by the Chief Guest, Keynote Speaker, and members of the Conference Committee during the inaugural session. The release ceremony highlighted the collective research contributions, academic excellence, and collaborative efforts of researchers, faculty members, and participants involved in the conference.

The conference encouraged interdisciplinary collaboration, enhanced presentation and communication skills, and created awareness about emerging technologies and recent advancements in science and engineering.

International Conference-2024



Participants presented their research papers, innovative ideas, and project outcomes before the esteemed guests and jury members during the technical sessions. The presentations encouraged academic interaction, knowledge sharing, and constructive feedback from experts. A sample copy of the participation certificate was also provided to the participants for reference and documentation purpose

A **Hackathon** is a time-bound competition or event where students or professionals work in teams to develop innovative solutions, prototypes, or software for real-world problems

National Level Project Competitions (Hackathon)

One team successfully qualified for the Grand Finale of Smart India Hackathon 2025 (SIH 2025), showcasing innovation, technical skills, and problem-solving abilities at the national level.



A total of 35 teams were shortlisted after a rigorous evaluation conducted by External and Internal Jury Members along with the Evaluation Teams, based on innovation, feasibility, technical readiness, and presentation quality. The active participation of 276 students reflected the strong innovation culture, creativity, and problem-solving spirit among students across the campus



The Smart India Hackathon (SIH) is a nationwide innovation competition organized by the Ministry of Education and AICTE, where students develop solutions for real-world problems given by government departments, industries, and NGOs. It started in 2017 and is considered one of the world's largest hackathons.



The received an overwhelming response with participation from 46 teams across various departments. After evaluation by the Internal College Committee (ICC), 35 teams were shortlisted based on innovation, technical feasibility, and presentation quality. A total of 276 students participated in the event, reflecting strong student involvement and promoting a vibrant culture of innovation, creativity, and research within the institution.

An internal college level hackathon is a competition organized within a college where students form teams to develop innovative ideas, prototypes, or solutions for given problem statements within a fixed time.



Avishkar is a research and innovation competition by SPPU that promotes student projects and problem-solving at university level.

State Level Project Poster Competitions (Avishkar)

Two teams successfully qualified for the State-Level Workshop in Avishkar poster presentation 2025 organized by Savitribai Phule Pune University (SPPU).



Team Participated details:

College Level: 346

Zonal Level: 21

University Level: 05

Selected For W/S: 02

For State Level: 01



Avishkar is a state-level research project competition organized by SPPU (Savitribai Phule Pune University) to promote innovation, research culture, and scientific thinking among students.

Avishkar-State Level Poster Competition

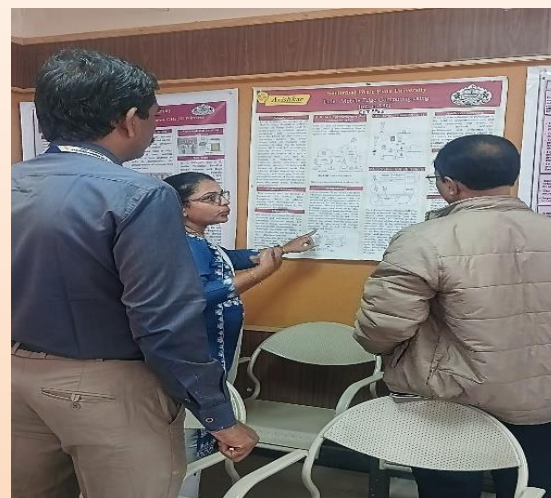


Avishkar is a state-level research competition organized under Savitribai Phule Pune University (SPPU) to promote research, innovation, and project-based learning among students and teachers. It encourages participants to present innovative research ideas, prototypes, and socially useful technologies

Zonal Level Poster Competition



Avishkar



Shortlisted team are presenting their posters and ideas to the guest and juries at Annasaheb Magar Mahavidyalya and Dr. D. Y. Patil Arts, Commerce & Science College, Akrudi for Avishkar Zonal Level Poster Presentation Competition.

Two teams from the E&TC and MCA departments participated in the University Level Poster Presentation organized by Savitribai Phule Pune University. One MCA team was shortlisted for the State Level competition.



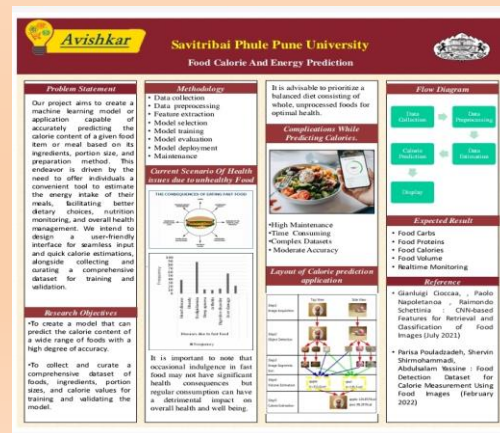
A shortlisted project in Avishkar at University level, the project has been selected from the college/district rounds to represent and compete at the university-level evaluation, based on its innovation, relevance, and research quality



(College Level) Project Presentation



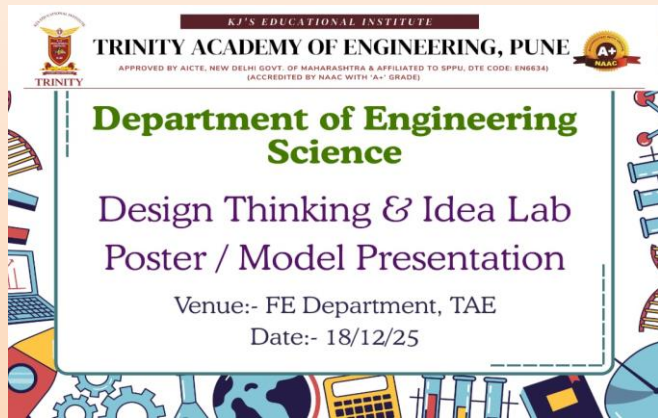
College Level BE (Bachelor of Engineering) Project Competition is a technical event where final-year engineering students present their innovative projects, research work, prototypes, and product developments before experts, faculty members, and industry professionals.



Outcomes

- ☐ Improved quality of project problem identification, methodology, and technical execution
- ☐ Increased alignment of student projects with current research trends and societal needs
- ☐ Strengthened documentation, presentation, and technical communication skills
- ☐ Identification of projects with potential for publications, patents, and prototypes

A Design Thinking Project Competition is an innovation-based event conducted for first-year engineering students to encourage creative problem-solving, teamwork, and user-centered project development. Students identify real-life problems and develop innovative, practical, and sustainable solutions using the design thinking approach.



Design thinking & Idea lab for Poster/Model Presentation



•Outcomes

- ❑ Enhanced creative thinking and problem-solving skills among students.
- ❑ Improved ability to convert ideas into effective posters and working models.
- ❑ Encouraged innovation, teamwork, and hands-on learning.
- ❑ Strengthened presentation and communication skills.

KJ Educational Institutes , Trinity Academy of Engineering organized its flagship national-level technical festival **GRAVITY 2K26** on 20–21 February 2026 under the theme “**Youth Empowerment for a Sustainable Bharat.**” The event witnessed participation of nearly 2,000 students forming 529 teams from cities such as Chennai, Jabalpur, Goa, Mumbai, and Pune, creating a vibrant platform for innovation, competition, and collaboration.

Technical Project Events (Gravity-2026)



Inauguration



Participants Count:

- Pitch Perfect: 83 teams
- Quadrant: 250 teams
- Nexus: 166 teams
- Cineclash: 30 teams

Total: 529 teams



The **Pitch Perfect** event under **Gravity** at Trinity Academy of Engineering plays a significant role in promoting innovation, entrepreneurship, creativity, and startup culture among engineering student.



Pitch Perfect



Participants Count for Pitch Perfect :

Registered: 89 teams

Participated: 83 teams

Winner: VIT-50K

Runner up: Pimpri Chinchwad Polytechnic College, Akurdi-30K

Runner up: Yashwantrao Mohite College of Arts, Science and Commerce-20K

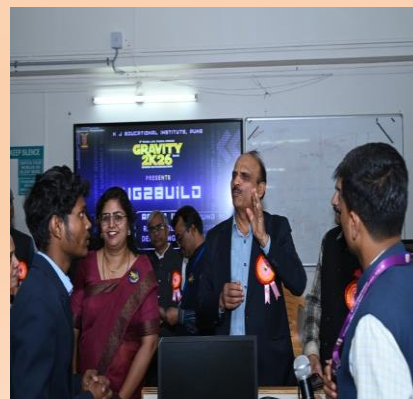
Outcome:

Participants gained exposure to startup pitching, business strategies, and real-world problem identification. Selected teams received an opportunity to participate in the National Level Innovation Competition.

Quadrant is one of the major technical and innovation-based events conducted under the Gravity platform at Trinity Academy of Engineering. The event is designed to encourage students to showcase their technical knowledge, analytical thinking, creativity, and problem-solving abilities through competitive activities and challenges.



Quadrant



Registered: 190 teams

• **Participated:** 250 teams

Winners:

• **Winner:** VIT (Bug2Build)-10K

• **Winner:** KJCOEMR (Treasure Hunt)-10K

• **Winner:** Trinity Polytechnic Pune (The Podium)-

• **Winner:** BKPS College of Architecture (Infrathon)-10K

• **Winner:** KJCOEMR (FrameForge)-10K

• **Winner:** TCOP & RJSPM College of Pharmacy (PharmaSpark)

Outcome: Students enhanced quick decision-making and accuracy under time pressure.

Nexus is an important event under the Gravity initiative at Trinity Academy of Engineering that focuses on creating a strong connection (“nexus”) between students, technology, innovation, and industry practices. The event serves as a platform for students to collaborate, exchange ideas, and demonstrate their technical and creative talents through various competitions and activities..

Technical Event -Nexus



Participants Count for Nexus:

- **Registered:** 168 teams
- **Participated:** 166 teams

Winners:

- **Winner:** VIT (Valorant)-10K
- **1st Runner up:** VU (Valorant)-5K
- **Winner:** MMIT (BGMI)-10K
- **1st Runner up:** D.Y. Patil (BGMI)-5K
- **Winner:** MMIT (FreeFire)-10K
- **1st Runner up:** HRM (FreeFire)-5K

Outcome: Strategic thinking, quick decision-making, and problem-solving abilities while improving reflexes, focus, and hand-eye coordination.

Gravity 2026 celebrated innovation, creativity, and technical excellence by awarding a total prize pool of ₹4,00,000 to outstanding student teams across various technical, research, coding, design, and innovation competitions organized at Trinity Academy of Engineering.

Gravity 2026- Prize Distribution

Prize distribution of ₹4,00,000 successfully completed for all events. Winners were awarded cash prizes, trophies, and certificates.

- **Pitch Perfect: ₹1,00,000**
- **Quadrant: ₹97,000**
- **Nexus: ₹45,000**
- **Cine Clash: ₹37,000**



**Prize
Distribution**



Computer Science & Engineering (CSE) & Information Technology (IT)

Faculty Specializations:

- ☐ Artificial Intelligence (AI) & Machine Learning (ML) : Prof. R. B. Lagdive/ Dr. A. A. Bhusari
- ☐ Cybersecurity & Blockchain : Prof. S. . S. Adagale
- ☐ Internet of Things (IoT) & Embedded Systems : Dr. P. R. Patil/ Dr. Khadait Khushbu
- ☐ Cloud Computing & Big Data Analytics Dr. Pawar Suravana

R&D Initiatives:

- ☐ Establish an AI & Data Science research lab.
- ☐ Organize hackathons, coding marathons, and research competitions.

2. Electronics & Communication Engineering (ECE)

Faculty Specializations:

- ☐ Wireless Communication & 5G Technology : Dr. D. D. Kulkarni, Dr. T. G. Thite & Dr. D. A. Jakkan
- ☐ Signal Processing & Image Recognition : Dr. T. GThite Optical & Quantum Communication : Prof. K. D. Patil
- ☐ Embedded Systems : Dr. D. D. Kulkarni & Prof. J. D. Palkar

R&D Initiatives:

- ☐ Develop IoT-based smart campus solutions.
- ☐ Establish a research lab for VLSI design and chip fabrication.

Mechanical Engineering (ME)

Faculty Specializations:

- ☐ Mechatronics/Manufacturing/Design: Dr. K. B. Gavali/Prof. V. D. Kolate
- ☐ Additive Manufacturing (3D Printing): Dr. M.K. Chaudhary
- ☐ Renewable Energy Systems: Dr. M. K. Chaudhary
- ☐ Composite Structures: Dr. A. H. Karle

R&D Initiatives:

- ☐ Develop autonomous robotic systems for industrial automation.
- ☐ Work on sustainability-driven mechanical innovations (solar, wind energy).
- ☐ Automotive companies for electric vehicle (EV) research.

Civil Engineering (CE)

Faculty Specializations:

- ☐ Smart & Sustainable Infrastructure:Prof. P. M. Mantakar/Dr. S. S. Deshmukh
- ☐ Structural Analysis : Prof. P. M. Mantakar
- ☐ Surveying: Prof. P. M. Mantakar
- ☐ Environment Engineering: Prof. A. C. Shirle
- ☐ Contracts & Tenders: Prof. K. H. Ghorpade

R&D Initiatives:

- ☐ collaboration with KJEI Infra projects.
- ☐ Develop low-cost housing solutions using eco-friendly materials.

The equipped facilities used for conducting experiments, testing, and developing projects/prototypes to support research and innovation in engineering.

Civil Engineering:

- ❑ A Ph.D. Research Centre in Civil Engineering provides advanced research facilities, expert guidance, and an academic environment for scholars pursuing doctoral research in various domains of civil engineering. The center promotes innovative research, industry collaboration, consultancy, patents, publications, and sustainable technological development.
- ❑ To promote a culture of research amongst the students and faculties E&TC and Mechanical Department has Robotics and Automation Center of Excellence Lab. which has industrial SCARA Robot.

UG (Undergraduate) level research in Mechanical Engineering with 3D Printing provides students with hands-on experience in design, prototyping, and innovative product development using additive manufacturing technology. It helps students transform creative ideas into functional models and industry-oriented solutions.



Activities Conducted Under this Lab

- ❑ Faculty Training Program on Robotics and Automation
- ❑ Values added Program for BE Students on SCARA Robot
- ❑ 2 Project Groups Worked on SCARA Robot for their Project
- ❑ Values added Program for E&TC Students on SCARA Robot



A **professional membership** an individual is a registered member of a recognized professional organization or body (such as IET, IEEE, ISTE, etc.)

Institutional/Department level professional membership

Civil Engineering:

- ❑ Indian Geotechnical Society:
03/04/2024, Student Chapter:
Experiment/ Testing and Technical
competition related to Soil/Geotech.

Computer Engineering:

- ❑ IAEng Membership for Computer
department. 34 students registered.

E&TC Engineering:

- ❑ The Institution of Electronics and
Telecommunication Engineers The
objectives of IETE focus on advancing
electro-technology. The IETE conducts
and sponsors technical meetings,
conferences, symposia, and exhibitions



Faculty members of the Civil Engineering Department of Trinity Academy of Engineering participated in a training program conducted by Survey of India to enhance technical knowledge and practical skills in surveying, mapping, and geospatial applications.

A publication session is a part of a conference, seminar, or academic event where researchers present their papers or research work for review and discussion.

Technical Session on Manuscript to Publication: Enhancing Research Impact through Citations and Journal Selection



KJ's Educational Institute
TRINITY ACADEMY OF ENGINEERING, PUNE
(Accredited by NAAC with 'A+' Grade)



A research focused session

"Manuscript to Publication: Enhancing Research Impact through Citations and Journal Selection"

Organized By
Research and Development Cell

22nd Dec 2025, 9.30 am



Invited Speaker
Dr. Anindita Roy,
Associate professor,
Department of Mechanical Engineering
Symbiosis Institute of Technology, Pune, India



Outcomes

- ❑ Improved understanding of effective citation practices to enhance research visibility and impact.
- ❑ Enhanced ability to identify and select appropriate journals for quality publications.
- ❑ Increased awareness of publication ethics, indexing, and impact metrics.
- ❑ Strengthened confidence in navigating the manuscript submission and review process.



Latitude: 18.420852
Longitude: 73.904946
Elevation: 748.81±1.0 m
Accuracy: 26.43 m
Time: 22-12-2025 10:16
Note: R&D (Manuscript Publication)

Powered by NoteCam

Research funding is the financial support provided by government agencies, universities, or industries to carry out **research, innovation, and development work**, including **projects, prototypes, experiments, and publications**.

Capacity Building for Excellence in Research Proposal Writing and Grant Funding



KJ'S EDUCATIONAL INSTITUTE
TRINITY ACADEMY OF ENGINEERING, PUNE
(ACCREDITED BY NAAC WITH 'A+' GRADE)



A research focused session

“Capacity Building for Excellence in Research Proposal Writing and Grant Funding”

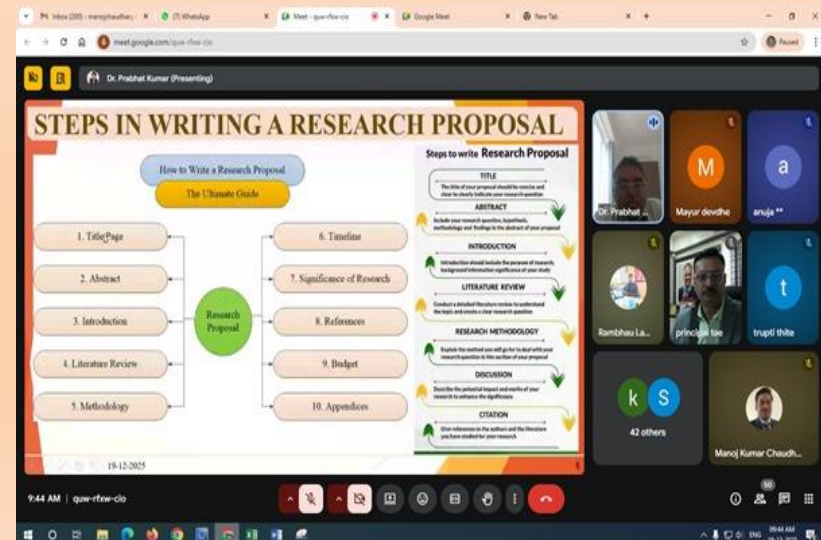
Organized By
Research and Development Cell
19th Dec 2025, 9.30 am

Invited Speaker
Dr. Prabhat Kumar
Assistant Professor & Head of Department
Department of Mechanical Engineering
National Institute of Technology (NIT), Manipur, India.



Outcomes:

- ❑ Enhanced understanding of structured research proposal writing aligned with funding agency guidelines.
- ❑ Improved skills in identifying suitable funding opportunities and grant schemes.
- ❑ Strengthened confidence in preparing competitive and impactful grant proposals.
- ❑ Increased competence in defining research problems, objectives, and deliverables.



A. Artificial Intelligence / Machine Learning / Data Science

- AI-Driven Autonomous Rover for Soil Analysis and Plant Recommendation using IoT and ML
- AI-Based Insider Threat Detection System
- Real-Time Sign to Text and Speech Converter
- AI-Based Microclimate Prediction System for Rooftop Farming
- SmartPrep: AI-Based Interview Preparation Platform
- AI-Powered Early Detection of Chronic Skin Issues
- Machine Learning Based Smart Disease Diagnosis System
- Enhanced Diabetic Retinopathy Diagnosis using CNN
- Brainwave EEG Based Emotion and Stress Monitoring System
- AI-Based Voice Assistant
- AI-Powered Speech to Text Converter with Real-Time Translation
- FlashFeed: AI-Based News Aggregator with Summarization
- GenAI Conversational System using LangChain
- OCR and Translation System for Ancient Greek Scripts
- AI-Based Skin Burn Severity Classification System

Project work is important because it helps students apply theoretical knowledge to real-world problems, develop technical and practical skills, and improve problem-solving and innovation ability

B. IoT / Embedded Systems / Smart Systems

- Smart Cradle System using IoT
- Smart Helmet with Accident Detection and Location Tracking
- Smart Fridge Inventory System using IoT
- Automatic Water Surface Cleaner (IoT-Enabled Robot)
- Wireless Solar Street Lamp Monitoring System
- Smart Irrigation System using AI-ML
- RF-Based Wearable Emergency Alert Device
- Smart Traffic Control and Incident Response System
- IoT-Based Solar Panel Cleaning System
- Thermoelectric Power Generation System using ESP8266
- Ration Bot Automated Distribution System

C. Civil / Infrastructure Engineering

- Feasibility of Temporary Steel Bridge on Mutha River, Warje
- Design & Shape Optimization of Foot Over Bridge
- Smart Architecture of Self-Healing Mechanism
- AssetGuru: Urban and Rural Property Data Governance System
- Investigation of Surface Treatment Effects on AISI D2 Tool Steel

D. Mechanical / Manufacturing / Automotive Engineering

- Design & Optimization of CNC Router Machine
- Solar Panel Cleaning System using Spray Nozzle
- Agrobot using IoT
- Experimental Analysis of ICE Plant using Nano Fluids (R134a)
- Wind Turbine Rotor Design for Low Reynolds Number
- Smart Battery Switching Circuit for EV Applications

E. Healthcare / Biomedical Engineering

- CURAMIND: AI Medical Assistant with Chatbot
- Gesture Recognition System for Patient Assistance
- Brain Tumour Detection using MRI Analysis
- Elderly Fall Detection System
- Neurotech: PC Controller using Brain Signals
- Diabetic Retinopathy Detection using Deep Learning
- AI-Based Health Prediction System

F. Cybersecurity / Digital Systems

- AI-Based Insider Threat Detection System
- Copy-Move Forgery Detection System
- E-Vote Secure: OTP and RFID-Based Voting System
- Digital Context Privacy Protection System using AI
- Blockchain-Based Bitcoin Market Trend Analysis System

The **domain in project work** is important because it defines the engineering field and technical direction of the project. It helps in selecting the right problem, methods, and tools, ensures focused research within a specific area, and improves the relevance and depth of the work.

G. Smart Communication / Assistive Technologies

- Real-Time Indian Sign Language (ISL) Interpreter
- AURAL SIGHT: Smart Vision Assistance for Blind Users
- Hybrid AI Navigation and Voice Q&A Assistant
- Portable Language Translator Device
- Third Eye System for Blind Assistance

H. Education / Enterprise / Smart Platforms

- TAP: Teacher Assistance Platform
- EDUSYNC: Student–Teacher–Parent Communication Platform
- BuildForge: Construction Management Application
- Meetverse: Smart Meeting Management System
- EVALPRO: AI-Based Placement Preparation System
- Interactive Alumni Networking Platform

The students of Trinity Academy of Engineering have achieved remarkable success in academics, research, innovation, technical competitions, and extracurricular activities, reflecting the institute's commitment toward holistic student development.

Student Achievements.....Many More

KJ's Educational Institute
TRINITY ACADEMY OF ENGINEERING, PUNE
 RESEARCH AND DEVELOPMENT CELL
Congratulations!!!
 Shortlisted Project for Workshop from University Level Avishkar Research Competition 2025-26



Department : E&TC
 Pranavkumar Hanumant Supekar, Aryan Mahesh Dattu, Gayatri Kiran Darandale
Title: Three tier smart ignition system for two wheeler
Mentor name : Mrs. Supriya Dhoke
HoD: Dr. Deepthi D. Kulkarni



Department : MCA
 Rohan Siddheshwar Shinde, Janhavi Vijay Manjarekar, Talika Ramarao Rathod
Title: Genomic database predictive model for endometrial cancer using hybrid deep learning technique
Mentor name : Mr. Bisweswar Thakur
HoD: Dr. Amit A. Bhusari

Dr. M.K.Choudhari
 Head, Research and Development Cell

Dr. R. J. Patil Principal
 Dr. Hemant Deshmukh Dean Student Development
 Dr. A. M. Fulambarkar Technical Director
 Maj. Gen. Sameer Kalla Executive Director
 Hon. Shri. Kalyan J. Jadhav President

SAVITRIBAI PHULE PUNE UNIVERSITY
 Internal Quality Assurance Cell (IQAC)
AAVISHKAR - 2025-26
 UNIVERSITY LEVEL RESEARCH PROJECT COMPETITION
Certificate of Participation

This is to certify that Shailesh Lonkar of Trinity Academy of Engineering/ Eo/Te Engineering has participated in University Level Aavishkar Research Competition in UG / PG / Post PG (Ph.D.) Engineering & Technology category, held at Savitribai Phule Pune University during November 11-12, 2025.

Principal Dr. Devdasa Waydande
 Chairman,
 Aavishkar Research Committee

Prof. Dr. Vinayak Joshi
 Director, IQAC



KJ's Educational Institute
TRINITY ACADEMY OF ENGINEERING, PUNE
 (Approved by AICTE, New Delhi, Govt. of Maharashtra & affiliated to SPPU)
 (Accredited by NAAC with 'A+' Grade)
RESEARCH AND DEVELOPMENT CELL
Congratulations!!!
 Shortlisted for the Grand Finale of Smart India Hackathon (SIH) 2025



Team Name: CodeDebugRun
Student Names: Sanchit Kumbhar, Ayaan Khan, Aniket Yelameli, Nachiket Kumbhar, Akanksha Jedhe, Aysa Shaikh
Title: Intelligent Recommendation System for Personalized Individual Development Plans (IDPs)
Department : Computer
Mentor name : Dr. Nilufer Zaman
HoD: Mr. R. B. Lagdive

Dr. M.K.Choudhari
 Head, Research and Development Cell

Dr. R. J. Patil Principal
 Dr. Hemant Deshmukh Dean Student Development
 Dr. A. M. Fulambarkar Technical Director
 Maj. Gen. Sameer Kalla Executive Director
 Hon. Shri. Kalyan J. Jadhav President



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
 Application for IIT Bombay Research Internship Awards 2025
 Application Number : 202503496

Choice of Department in IIT Bombay :	First Choice : Aerospace Engineering	Second Choice : Computer Science & Engineering	Third Choice : Centre for Systems & Control
Choice of Research projects in IIT Bombay :	First Choice : Machine Learning Based Target Identification	Second Choice : Artificial Intelligence for Security Planning	Third Choice : Integrated Planning and Control for Autonomous Underwater Vehicle

1. Name : Pratiksha Pravin Bhosale
 Jay Greshk Plaza, Katraj Kondhwa Road, Near Sakinaka Temple, Pune
 Pune
 Maharashtra
 411008

2. Address : _____

SAVITRIBAI PHULE PUNE UNIVERSITY
 Internal Quality Assurance Cell (IQAC)
AAVISHKAR - 2024-25
 UNIVERSITY LEVEL RESEARCH PROJECT COMPETITION
Certificate of Participation

This is to certify that Mr./Miss. Mrs. Jain Chetana of Trinity Academy of Engineering College/Institute has participated in University Level Research for UG / PG / Post PG (M.Phil. / Ph.D.) at "AAVISHKAR - 2024-25" Research Competition, Under Engineering & Technology category, held at Savitribai Phule Pune University on 15/12/2024.

Principal Dr. Devdasa Waydande
 Chairman,
 Aavishkar Research Committee

Prof. Sandhya Dhoke
 Director, IQAC

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
 Application for IIT Bombay Research Internship Awards 2025
 Application Number : 202503625

Choice of Department in IIT Bombay :	First Choice : Centre for Educational Technology	Second Choice : Computer Science & Engineering	Third Choice : Centre for Technology Alternatives for Rural Areas (CTARA)
Choice of Research projects in IIT Bombay :	First Choice : Machine Learning Based Target Identification	Second Choice : Monitoring and Improving Indoor Air Quality in Classrooms Using IoT and Data-Driven Approaches	Third Choice : Drive for tunnel inspection

1. Name : Pratiksha Pravin Bhosale
 flat no A7, amrutha chandikam nishah pune 411027
 Pune
 Maharashtra

2. Address : _____



Faculty Achievements.....Many More

 Office of the Chief Executive Officer, Strategic Skills Institute Employment in Research (Education) and Skills Institute University of Birmingham	 HfEP Higher Education Employment Partnership	Application form
		APPLICANT NUMBER: 2021-1002 APPLICANT NAME: CHARMAN, ALEXANDER APPLICANT DATE: 1. New Job/Change/Continue 2. RETURNING 3. NEW EMPLOYMENT 4. NEW/RENEWED LEAD 5. NEW LEAD 6. NEW/RENEWED SUPPORT 7. NEW/RENEWED LEAD 8. NEW/RENEWED LEAD 9. NEW/RENEWED LEAD 10. NEW/RENEWED LEAD YOUR HISTORY: Step 1 and Step 2 of the recruitment process for the new hire position of the Strategic Skills Institute REVIEW HISTORY: Step 1 and Step 2 of the recruitment process for the new hire position of the Strategic Skills Institute EMAIL TO BE USED: hr@bham.ac.uk APPROVAL DATE, BY WHOM: hr@bham.ac.uk EMAIL USED TO SEND: hr@bham.ac.uk REVIEW DATE: 2021-10-02 REVIEW BY: 2021-10-02



TRINITY ACADEMY OF ENGINEERING PUNE

DTE Code : EN6634

CONGRATULATIONS

Faculty from Department of
Electronics & Telecommunication





Research
funding of
Rs.200,000.00

Mr.D.A.Jakkan



Research
funding of
Rs.100,000.00

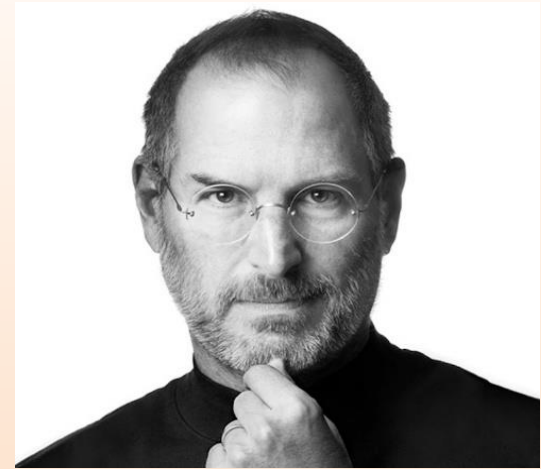
Mrs.T.G.Thite



Research
funding of
Rs.75,000.00

Mrs.K.D.Patil

Sometimes when you innovate,
you make mistakes. It is best to
admit them quickly and get on
with improving your other
innovations...



Steve Jobs



Ratan Tata

All of us do not have equal
talent. Yet, all of us have an
equal opportunity to develop
our talents....

*Research is to see what everybody else has seen,
and to think what nobody else has thought...*



**Trinity Academy of Engineering, S.No.25 & 27,Near Bopdeo Ghat,
Kondhwa-Saswad Road, Pune-48**

☎: +91 20 26934422, Website: www.kjei.edu.in/tae