

TECHNICAL TRENDS

Department of First Year Engineering -
Technical Magazine



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"Technical Trends serves as a platform for both students and educators to highlight their expertise in fields such as research, environmental awareness, and cutting-edge technologies. The First Year Engineering department enjoys a distinct advantage of being multidisciplinary, providing a stimulating environment that encourages a wide range of projects from both students and faculty. The annual publication of the 'TECHNICAL TRENDS' magazine is dedicated to promoting technical awareness, fostering a conducive technical atmosphere, and recognizing the endeavours of those who prioritize knowledge exchange. Let us strive for continual improvement and let excellence prevail."

Our Inspiration



Shri. Shahu Chhatrapati Maharaj
President, AISSM Society

From Principal's Desk



Dr. D S Bormane
Principal AISSMS COE, PUNE

AISSMS College of Engineering has emerged as a inspiration of academic brilliance. The honour of being awarded the Best College in 2022 stands as a resounding testament to the unwavering dedication towards achieving and upholding the highest standards of education. This is underscored by the consistent production of university gold medallists and top-performing students across various branches of engineering. The diverse array of engineering branches represented by both faculty and students showcases an impressive proficiency. Their ability is evident through prolific research publications, participation in technical competitions, and the skilful application of theoretical concepts into practical domains.

The institution is endowed with cutting-edge analytical, computational, and experimental facilities that greatly enhance the learning journey of students. These state-of-the-art resources provide a fertile ground for hands-on learning and experimentation, thereby sculpting well-rounded professionals. A prominent emphasis is laid on cultivating a culture of engineering research for the betterment of both the student body and the wider society. This dedication to research and development fosters an environment of continuous innovation, positioning the college at the forefront of technological advancement. Together, we forge a path towards continued excellence in technical education and a brighter future for all.

Vision:

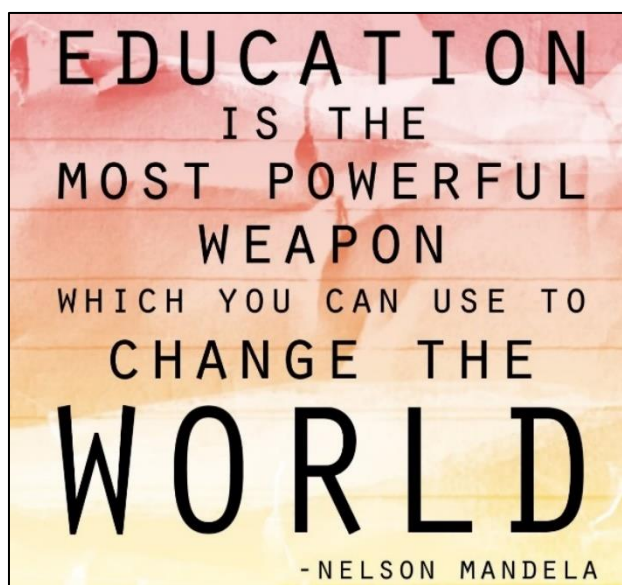
- Service to society through quality education

Mission:

- Generation of national wealth through education and research
- Imparting quality technical education at the cost affordable to all strata of the society
- Enhancing the quality of life through sustainable development
- Carrying out high-quality intellectual work
- Achieving the distinction of the highest preferred engineering college in the eyes of the stakeholders

Goal:

- To inculcate learning habits
- To create an environment to make the students creative and innovative
- To promote project-based learning
- To strengthen industry – institute interaction
- To ensure continuous improvement in quality
- To develop entrepreneurship skills
- To nurture the spirit of team work
- To catalyse all – round development of students
- To develop technologies for sustainable development



From FE Head of Department's Desk



Dr. Deepak V. Nighot
Head, First Year Engineering Dept.

The very first academic year of engineering is crucial in moulding the students into the next generation of engineers. The motivation behind this department has been to nurture and shape the students into capable technical leaders while also improving their employability by instilling high moral standards. The teaching-learning approach utilised by faculty members improves students' analytical and critical thinking abilities. The platform "TECHNICAL TRENDS" is one of many that allow students the freedom to express their ideas and demonstrate their knowledge.

Despite being common to all branches, the varied subjects presented to students in their first year. The faculties are highly recognised by students and have exceptional academic histories. The self-driven and committed staff members put in a lot of effort to get them ready for the technical know-how of their particular department. They are kept from becoming bored with academics by activities including expert lectures, site visits, technical events, sports and cultural events, and soft skills training. For our future engineers, the department ensures a highly healthy, friendly, but competitive environment.

Vision:

- Impart students with pre-requisites of technical know-how's to expedite as an emerging engineer

Mission:

- Embed crucial thinking and analytical reasoning ability required by respective disciplines
- Cultivate students to deal with stress and anxiety imposed by academics and social milieu
- Nurture students to emulate and inculcate the judicious nature demanded by the multifaceted world

Short Term Department Goals:

- Enhance Academic Performance of the students
- Strengthen Collaborative Research across various Institutes and Industries
- Motivate all the faculties for Higher Studies and Skill Development
- Emphasis on use of ICT for Teaching–Learning Methodology
- Development of e-classrooms and upgradation of Laboratories

Long Term Department Goals:

- Encourage every student for excellence
- Embed the desire for upgradation of staff
- Resource generation through Consultancy and Research



The beautiful thing about learning is that nobody can take it away from you.

- B.B. King

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FACULTYS' PUBLICATIONS

Curcumin-Loaded Phenethyl Isothiocyanate Nano-Spheres: Preparation, Stability Study, and Its Implication for Cataract Prevention.

Pankaj Baviskar, Deepak Nighot, Vrashali Kalyani, Archana Dhumure
All India Shri Shivaji Memorial Society's
College of Engineering
Pune, Maharashtra

ABSTRACT

This study examined the effect of curcumin-loaded nanospheres in an emulsion form on fish eye cataracts. Preparation of curcumin nanoemulsions using phenylethyl isothiocyanate. Nanoemulsions were produced using ultrasound at 150 W. The zeta potential measurement of turmeric loaded nanoemulsions was found to be -30.7eV, -13.4eV, -9.55eV, under different conditions, the size measured by the particle size analyzer is 149.3nm, 245.3nm and 403.5nm, respectively. Investigate the surface morphology of nanospheres by FE-SEM analysis. The zeta potential index indicates the stability of the corresponding nanospheres. The use of anti-cataract drugs is studied using a separate fish eye lens. Cataracts are caused by high sugar levels. Evaluation of the biochemical parameters of the reduced form of glutathione to explain the anti-cataract effect of curcumin-loaded nanoemulsions.

KEYWORDS: Curcumin, Phenethyl isothiocyanate, Nano-Spheres, Cataract.

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SHARP INITIAL COEFFICIENT BOUNDS AND THE FEKETE–SZEGO PROBLEM FOR SOME SUBCLASSES OF ANALYTIC AND BI- UNIVALENT FUNCTIONS

A. B. Patil^{1,2} and T. G. Shaba³ UDC 517.5

We introduce two new subclasses $U^*(\lambda)$ and $B_1^*(\lambda)$ of analytic bi-univalent functions defined in an open unit disk U , which are associated with the Bazilevich functions. In addition, for functions from these subclasses, we obtain sharp bounds for the initial Taylor–Maclaurin coefficients a_2 and a_3 , as well as the sharp estimate for the Fekete–Szego functional $a_3 - \mu a_2$.

*“Progress is impossible without change, and those who
cannot change their minds cannot change anything.”*

-George Bernard Shaw

Automatic Irrigation Using Soil Moisture Sensor

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Maharashtra, India^{1,2,3,4,5}

Assistant Professor, Department of Civil Engineering, AISSMS College of Engineering, Pune-1, Maharashtra, India⁶

ABSTRACT: This research aims at working on "Automatic Irrigation System Using Moisture Sensor" is the name of the project we are working on. Because India is a country that prioritises agriculture but the rate at which water supplies are being used up poses a grave threat, thus it is necessary to find a clever and effective method of irrigation. In this project, moisture sensors were to use identify the soil's humidity (an agricultural field) and deliver water to the areas as needed. The project uses an 8051 microcontroller to control both the water supply and the irrigation system for the field. Each field has sensors, but they don't start working until there is water on the field. When the field becomes dry, the sensor detects the need for water and sends a signal to the microcontroller. This research described how an automated irrigation system based on wireless communication and microcontrollers was developed at an experimental scale in a rural location. The goal of model implementations was to show how automatic irrigation may be used to use less water. Conclusion of abstract is each sensor is activated when soil is not fulfil with their optimum moisture content.

KEYWORDS: Automatic irrigation, moisture sensor, Optimum moisture content.

*"Education is not received. It
is achieved."*

-Albert Einstein

“PROJECT BASED LEARNING EXHIBITION & PARENTS MEET 2022-23”

For better learning experience, along with traditional classroom teaching and laboratory learning; project-based learning has been introduced with an objective to motivate students to learn by working in group cooperatively to solve a problem. Project-based learning (PBL) is a student-centric pedagogy that involves a dynamic classroom approach in which it is believed that students acquire a deeper knowledge through active exploration of real-world challenges and problems. Students learn about a subject by working for an extended period of time to investigate and respond to a complex question, challenge, or problem. It is a style of active learning and inquiry-based learning. (Reference: Wikipedia). Problem based learning will also redefine the role of teacher as mentor in learning process.

The department of First Year Engineering took the initiative to organise a Project Based Learning for all first-year engineering students. This event was sponsored by ISTE Student Chapter, AISSMS COE Pune. Also, on same day FE parents meet was conducted with the presence of 50 parents. This event was coordinated by Prof. S.S Patil (PBL Coordinator), Dr.D.V Nighot (Head of Department)

INAGURATION CEREMONEY:

The function commenced by the garlanding the statues of Shri Chartrapati Shahu Maharaj and Shri Chartrapati Shivaji Maharaj and lighting of the lamp. In the presence of Dr. D. V. Nighot (HOD FE Dept.) and all staff members, the programme was launched by Dr. D. S. Bormane (Principal -Cum-Chairperson ISTE Students chapter AISSMS COE), Prof. N. P. Mawale (Secretary-Cum-Treasurer ISTE Students chapter AISSMS COE), and parents. Merilyn D'Cruz anchored the programme. Dr. D V Nighot introduced the first year department, Dr. D S Bormane provided information about the AISSM Society, the institute, and the significance of PBL in the first year curriculum, and Dr. D V Nighot addressed questions from the parents.



Inauguration by Dr. D.S Bormane Principal AISSMS COE Pune and Parents



Inauguration and address to the gathering Dr. D. S. Bormane and Prof. V. R Patil



Parents sharing feedback



Parents inaugurating the PBL Exhibition and viewing Projects

PRIZE DISTRIBUTION:

Expert committee was appointed for drawing rank for prize distribution. Expert committee members visited to each hall and assessed entire project and submitted report. Total 11 expert members allotted for 05 exhibition halls. The expert committee recommended five best projects among 130 projects. Again at 4:00pm all staff members, parents, students, committee members, ISTE students chapter members, Principal gathered together in CITP hall for Prize distribution. The name of winners announced by Mrs. B.A Patil for prize distribution as follows:

Sr. No.	Rank	Prize (Rs.)	Project Title	Name of Winner
1	First	3000/-	Water Level Indicator	Kunal & team
2	Second	2500/-	Pune Metro Project	Siddhi Darwatkar & team
3	Third	2000/-	Cigarette Management	Atharva Kahire & team
4	Fourth	1500/-	Tsunami Wave	Parth Jaiswal & team
5	Fifth	1000/-	Arduino Based Robot	Pratik Walunj & team
Total		10,000/- (Rs.)		



Prize Distribution Ceremony

The Valedictory Function was anchored by Mrs. M. A. D'Cruz. The prize winners were announced by Mrs. B A Patil. The program was then concluded with vote of thanks by the Coordinator of the PBL Exhibition, Mr. S. S Patil.

Report Prepared By
Prof. S. S. Patil

GOOGLE DOODLE ON CLIMATE CHANGE



SIDDHI BAHIRAT (FE ROBOTICS)



NIDHI BHURKE (FE E&TC)



AVANI ALURKAR (FE ROBOTICS)



ANJALI KONDE (FE ROBOTICS)



SHRAVANI KHANVILKAR (FE E&TC)



KHUSHI KARDE (FE ROBOTICS)



ROHIT DIVEKAR (FE ROBOTICS)



ARWA MASTER (FE E&TC)



“Creativity is intelligence having fun.”

– Albert Einstein.



JAYESH ROMAN (FE E&TC)



SAKSHI GHODKE (FE ROBOTICS)








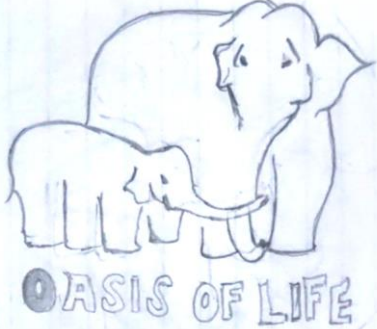
WILDLIFE SANCTUARY LOGO



AARYA SALUNKHE (FE ROBOTICS)



SAKSHI GHODKE (FE ROBOTICS)

	
<p>MITESHA DANGE (FE ROBOTICS)</p>	<p>SAYLI H. I. (FE E&TC)</p>
	
<p>ARWA MASTER (FE E&TC)</p>	<p>TANVI LAD (FE MECH S/W)</p>
	
<p>TANMAY JAGTAP (FE E&TC)</p>	<p>ADITYA SHELAR (FE E &TC)</p>
	
<p>SHRAVANI THORAT (FE E&TC)</p>	<p>ROHIT KALE (FE MECH S/W)</p>

	
<p>VAIBHAV INGLE (FE E&TC)</p>	<p>ARJUN IYER (FE E&TC)</p>
	
<p>SOMYA VERMA (FE E&TC)</p>	<p>KARAN MANE (FE E&TC)</p>
	
<p>DIGVIJAY KADOLKAR (FE E&TC)</p>	<p>VIRAJ VIDHALE (FE E&TC)</p>