



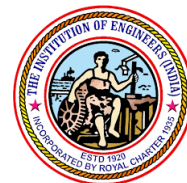
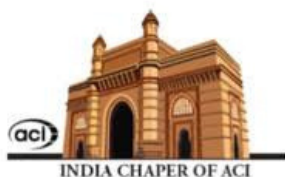
CIVIL ENGINEERS MEDIA



**NANDHA ENGINEERING COLLEGE
(AUTONOMOUS)
ERODE - 638 052
DEPARTMENT OF CIVIL ENGINEERING**




Indian Concrete Institute



VOL. 2 | JAN - JUN 2024

DEPARTMENT NEWS



CONCRETE NEWS
The News Bulletin from Nandha Engineering College
Department of Civil Engineering
Shaping Minds... Reshaping India...

Volume: 16, Issue: 01, July - Dec '23

The truly educated individuals are capable of doing new things; they have the ability to generate ideas & turn them into the reality. Today's values based education is an approach to prepare them for the practice at the professional level & sure the Department of Civil Engineering offers the value in all aspect. And sure this would be in high aspiration to showcase their work. I wish all them the very best.

Dr N RENGARAJAN
Principal - NEC

Welcome to the sixteenth issue of Concrete News, which highlights the achievements of the Civil Engineering Department at Nandha Engineering College. Academic Year 2023-24 (Old Semester) was a year of great achievements and carried on the momentous journey of the department Vision. As always, this academic year also saw our students bringing laurels to the institute by winning prestigious awards and prizes in various competitions. Once you read it, I'm sure you'll find them more than deserving of such an honor for the achievers.

Dr. E.K MOHANRAJ
Dean - Civil Engg

Student's Chapters

Indian Concrete Institute
&
India Chapter of American Concrete Institute

Institute Vision
To be an Institute of excellence providing quality Engineering, Technology and Management education to meet the ever changing needs of the society.

Institute Mission

- To provide quality education to produce ethical and competent professionals with social responsibility.
- To excel in the thrust areas of Engineering, Technology and Entrepreneurship by solving real world problems.
- To create a learner centric environment and improve continually to meet the changing global needs.

Department Vision
To foster academic excellence by imparting knowledge in civil engineering and allied disciplines to meet the ever growing needs of the society.

Department Mission
Civil Engineering Department is committed

- To impart quality education to produce professionals with social responsibility.
- To excel in the thrust areas of civil and allied engineering to solve real world problems.
- To create a learner centric environment with continual progress to meet the global engineering needs.

ACADEMIA: A CONFLUENCE OF IDEAS SEMINARS / WORKSHOPS / PROGRAMMES

WORKSHOP ON TEKLA STRUCTURES

A workshop on "Tekla Structures" was conducted for our III Year students at CADD Centre, Erode on 5th August 2023.



*Erode, Tamil Nadu, India
Malar Road, Palamangalapuram, 635004, Erode
Pin Code: Tamil Nadu 635004, India
Lat: 11.348232
Long: 77.713122
0606023 10:00 AM GMT +05:30*

SESSION ON BEING PROACTIVE ON YOUR NEXT STEPS

A session on "Being Proactive on Your Next Steps", by Payana Overseas Solution Pvt Ltd, Erode by Er. R. Jayachandran, BE, MBA on 01st September 2023.



*Vaikumbhadi, Tamil Nadu, India
Lat: 12.280177
Long: 77.719802
0606023 10:00 AM GMT +05:30*

SOCIAL ACTIVITY

An AICTE initiative "One Student One Tree", all approved technical institutions was requested to carry out a plantation drive by planting minimum of one tree per student. Students of Civil Engineering department planted a tree.



WORKSHOP ON BIM

Workshop on Building Information Modelling (BIM) for III Year students by ETS Academy, Erode on 1st September 2023.



News Letter

Student Activities

Academic Toppers

(2020-24 Batch)



Venkatesh P
(9.111 CGPA)



Matheswaran S
(9.057 CGPA)



Ritheha J
(9.012 CGPA)

(2021-25 Batch)



Prem Kumar S
(8.40 GPA)



Dharsana S
(8.18 GPA)



Manikandan S
(7.64 GPA)

(2022-26 Batch)



Anusree P
(8.75 GPA)



Shreetha S
(8.75 GPA)



Sivaranjani P
(8.74 GPA)

(2023-27 Batch)



Anupama N
(8.50 GPA)



Subaharini G
(8.15 GPA)



Thejashwini S
(7.60 GPA)

Student Toppers

ACADEMIA: A CONFLUENCE OF IDEAS SEMINARS / WORKSHOPS / PROGRAMMES

News Published in News Paper

Faculty of Nanda College of Engineering and Technology won awards for best educators

ERODE

"Engineers' Day is celebrated every year to commemorate the birth anniversary of the late engineer Vihavaswaran, who is revered as the father of engineers. In view of this, the 56th Best Engineers Awards ceremony was held recently in an excellent manner by the Erode Division, which is a part of the Indian Institute of Engineers, which is headquartered in Kolkata.

On this occasion, "Best Educators" and "Best Engineers" awards were selected for outstanding teachers in engineering and technical colleges operating in Erode district and engineers working in engineering institutions.

Based on this, the professors

venkateswaran were also honored with awards for best educators.

Sri Nanda Education Foundation President V. Shanmugan, Engineering College Principal Dr. N. Rengarajan and the Principal of the College of Technology, Dr. S. Nandagopal felicitated with special gifts.

Also Mr. S. Nandakumar Pradeep, Secretary of Sri Nanda Education Trust and S. Thirumurthy, Secretary of Nanda Educational Institutions, Principal Academic Officer, Dr. S. Arumugam, Director, Nanda Technical Complex, Dr. Senthil Jayavel and Executive Officer A.K. Velusamy and others Congratulated to the award winning professors and students reported.

சென்னை நகரில் கன்னடப் பெண்கள் கல்வித் துறையில் உயர்ந்த அளவில் வெற்றி பெற்றது

சென்னை, ஜூன் 31

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Press Clippings



Bamboo

BAMBOO AS A BUILDING MATERIAL— NAY OR YAY?

"The question is what about Bamboo as a Building Material?"

Bamboo is a versatile construction material that is strong yet lightweight. It grows rapidly and can be used for housing, floors, walls, roofs and scaffolding.

**Sriroobini BP
Sivabharathi G
1 Year**

Bamboo is one of the strongest and fastest growing plants, reaching heights of over 100 feet. Bamboo has a myriad of uses for sustainable, eco-friendly building. Unlike other forms of wood, bamboo has a low weight and sturdy structure. Whether you want to construct tiki huts or bars, bamboo is a sturdy, outdoor wood option that will last. It proliferates, making it an ideal sustainable building product. And we'll share the numerous benefits associated with using the world's fastest growing plant. Did you know? Bamboo has higher compressive strength than wood, brick, and concrete – and its tensile strength rivals that of steel!

GUEST LECTURE

Er.G.Amirthagadeswaran
How to plan for startup
legal and ethical steps



Dr.M.Arun
Mentoring Event:
Project demo of business plan



Vaikalmedu, Tamil Nadu, India
Block-7, NEC Campus, Vaikalmedu, Thottani, Tamil N
Lat 11.284011°
Long 77.620913°
05/24 02:07 PM GMT +05:30

Er.K.Gandhi
Innovation in Civil Engineering
Software



Vaikalmedu, Tamil Nadu, India
Block-7, NEC Campus, Vaikalmedu, Thottani, Tamil Nadu 638057
Lat 11.284039°
Long 77.620826°
10:16 AM GMT +05:30



Vaikalmedu, Tamil Nadu, India
Block-7, NEC Campus, Vaikalmedu, Thottani, Tamil Nadu
Lat 11.284201°
Long 77.620677°
09/09/23 10:07 AM GMT +05:30

Er.R.Udhayasankar
Start-up Opportunities in
Civil Engineering

ONE CREDIT COURSE



du, Tamil Nadu, India
ing College, 7JMC+FMH, Vaikalmadu, Thottani, T

+05:30

The Civil Engineering Association - NEC and ICI Student's Chapter of Nandha Engineering College, in collaboration with the Centre for Value Added Courses, organized a Training on Total Station on June 2nd, 3rd, 7th, and 9th, 2024. The training was conducted by Er. T. Srivishnu, an expert with significant experience in the field.



On the first day, the session commenced with a general introduction to advanced surveying techniques and available equipment. Furthermore Er. T. Srivishnu highlighted the advantages of total station technology compared to conventional surveying methods. The participants were introduced to "GO-WIN" software, which offers several benefits such as electronic bubble adjustments, easy editing and recalling of data, memory storage capabilities, and support for additional software like Survey Pro. The expert then proceeded to explain instrument settings and adjustments, focusing on electronic bubble and computerized options within the instrument. The training session concluded with the trainee discussing the various opportunities available in the field of surveying and addressing any queries raised by the candidates.

Robots for Constructions



MARKET TRENDS

Can we use robots for building Constructions?

Robots are used in factories to prefabricate building components such as walls, floors, and roofs. These components are then transported to the construction site for assembly. Robotic arms can lay bricks more quickly and accurately than human workers. They can work continuously without breaks and are not affected by weather conditions. Large-scale 3D printers can create entire walls or even entire houses layer by layer.

For instance, SAM, the “semi-automated mason” developed by a US company called Construction Robotics, has been used on a number of construction projects in the US.

Premkumar S & Gokulan V
III Year

This method can be faster and more cost-effective than traditional construction methods. Robots can install roof tiles or panels with precision, reducing the risk of errors and speeding up the process. Autonomous robots can prepare construction sites by excavating, leveling, and preparing foundations. Robots equipped with sensors can inspect buildings for quality control purposes and perform maintenance tasks



LOCAL VISIT

LBP CANAL



Final year Civil Engineering students visited the canal lining work at the LBP canal in Vaikkalmedu, Perundurai. During the visit, canal lining work was actively being carried out. The students observed the reinforcement details of various concrete structures, such as retaining walls and drain culverts.

ROOF CONCRETING – BOOM PUMP

Boom concrete pump is used in the site for concreting since the floor height of the reception area is 40 feet. A boom pump is a type of concrete pump that is used to transfer liquid concrete through a pipeline to the location where it is needed.





Geopolymer Concrete



Precast Geopolymer Concrete



GEPOLYMER CONCRETE

*An Eco-Friendly House
Construction Material*

GEPOLYMER CONCRETE – AN INNOVATIVE HOUSE CONSTRUCTION MATERIAL!

Geopolymer concrete has now emerged as a possible replacement to the binders for the production of concrete. The Geopolymer concrete has also brought about a reduction in CO₂ emission in OPC production by 80%.

Geopolymer concrete is suitable for various applications in construction, including foundations, walls, floors, and precast elements. It has been used in both residential and commercial buildings, as well as in infrastructure projects like bridges and tunnels.

- **Environmental Benefits:** Geopolymer concrete can reduce carbon dioxide emissions compared to traditional Portland cement concrete because it uses industrial waste materials.
- **Durability:** It often exhibits higher compressive and flexural strengths, lower permeability, and greater resistance to chemical attack compared to Portland cement concrete.
- **Fire Resistance:** Geopolymer concrete tends to have better fire resistance properties than conventional concrete.
- **Reduced Shrinkage:** It generally experiences lower shrinkage during curing, reducing the likelihood of cracking.



Geopolymer concrete offers several environmental benefits compared to traditional Portland cement-based concrete:

- **Reduced CO₂ Emissions:** Portland cement production is a significant source of carbon dioxide emissions due to the high-energy requirements of clinker production and calcination. Geopolymer concrete reduces CO₂ emissions because it typically uses industrial by-products like fly ash or slag, which would otherwise be disposed of or require energy-intensive processes to manage.
- **Utilization of Industrial By-Products:** Geopolymer concrete utilizes industrial by-products such as fly ash, slag, and metakaolin, which are abundant and often considered waste materials. Incorporating these materials into geopolymers reduces the demand for virgin materials and decreases landfill usage, contributing to sustainable waste management practices.
- **Energy Efficiency:** Geopolymer production generally requires lower curing temperatures compared to Portland cement, which reduces energy consumption during manufacturing. Additionally, the alkaline activators used in geopolymer binders may require less energy-intensive processes than clinker production.

- **Fire Resistance:** Geopolymer concrete tends to have better fire resistance properties than conventional concrete, which can enhance building safety and reduce the environmental impact of fire damage and reconstruction.
- **Reduction in Water Usage:** Geopolymer concrete typically requires less water during production compared to Portland cement-based concrete, contributing to water conservation efforts.
- **Potential for Carbon Sequestration:** Some types of geopolymer binders have the potential to sequester carbon dioxide through a process known as carbonation, where CO₂ reacts with alkaline materials in the binder. This could potentially offset some of the initial CO₂ emissions associated with production.
- **Durability and Longevity:** Geopolymer concrete often exhibits superior durability characteristics such as higher compressive strength, lower permeability, and better resistance to chemical attack compared to traditional concrete. This can extend the service life of structures, reducing the need for frequent repairs and replacements, which in turn decreases environmental impacts associated with maintenance and material disposal.



Vijayakumar M & Neeraj K
IV Year

CONSULTANCY

Academic Year	No. of works carried out	Revenue Generated (Rs)
2023-24	650	12,48,400
2022-23	485	6,53,150
2021-22	170	2,68,000
2020-21	176	2,56,150
2019-20	196	2,44,850
2018-19	226	2,03,750
2017-18	116	1,36,400
2016-17	22	71,900
2015-16	13	32,400



Consultancy services in concrete testing include optimizing mix designs for desired properties, ensuring quality control during production and placement, troubleshooting quality issues, providing training on testing methods, and ensuring compliance with relevant codes and standards.

PCD Club Activities

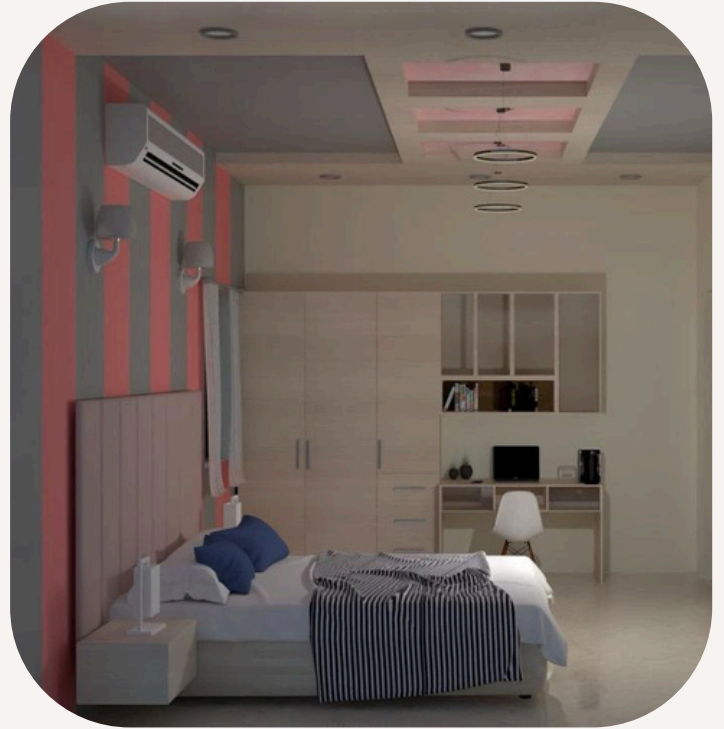




Student Innovative Ideas



CIVIL VISIONS 3D



ALUMNI UNIT



Er. SINISHA KENT (2016 - 20)
Junior Engineer (JE)



Er. M. KARTHIKEYAN (2013-17)
Overseer/Junior Drafting Officer



TNRD

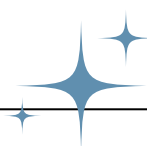


Er. N. GOBINATH (2018-20)
Senior Design Engineer



STRUCTURES Online

Structural Steel Design & Detailing





NANDHA EDUCATIONAL INSTITUTIONS



Erode - 638 052 Tamil Nadu

OUR INSTITUTIONS

Nandha Medical College And Hospital
Nandha Ayurveda Medical College and Hospital
Nandha Siddha Medical College and Hospital
Nandha Naturopathy and Yoga Medical College
Nandha College of Pharmacy
Nandha College of Physiotherapy
Nandha College of Nursing
Nandha School of Nursing
Nandha College of Allied Health Sciences
Nandha Acedemy of Allied Health Sciences
Nandha Institute of Health Science

OUR INSTITUTIONS

Nandha Dental College and Hospital
Nandha Engineering College
Nandha College of Technology
Nandha Polytechnic College
Nandha Arts & Science College
Nandha College of Education
Nandha Teacher Training Institute
Nandha Central School
Nandha Central City School

NANDHA ENGINEERING COLLEGE (Autonomous)

Perundurai - Erode Main Road, Erode - 638052. Tamil Nadu

Department of Civil Engineering



BATCH 2020 – 2024

"United in words, driven by curiosity,
the editorial team transforms ideas
into stories that ignite minds and
inspire change, shaping the future
one word at a time."



Editorial Team

Dr E K Mohanraj
Dean

K L Ravisankar
Assistant Professor

M Malarvizhi
Data Entry Operator

K Neeraj
Final Year

