



Vidyavardhini's College of Engineering & Technology
K.T. Marg, Vasai (W).

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NIRMAAN 2K23

Vidyavardhini's College of Engineering & Technology's Civil Department organized its annual technical fest "NIRMAN" on 31st March, 2023 and 1st April, 2023 in association with Indian Green Building Council (IGBC).

This was a two day fest which had various events for students to participate and explore their skills as engineers. Also a panel discussion and workshop was organised for students to help students to polish their knowledge and make their CVs captivating.

On 31st March, the technical fest was inaugurated with our Guests Of Honour **Mr. Pramod Mishra, Mr. Sunny Tathale and Dr. Sharvil Alex Faroz**, our HOD **Dr. Ajay Radke**, Faculties and all students. During this students were addressed by the guests for future carried by revelation of NIRMAAN'23 board.

Later a panel discussion on "Bridge The Gap" was done in presence of all our Guest **Mr. Mishra, Mr. Tathale and Dr. Sharvil**, our HOD **Dr. Ajay Radke** and our Associate Professor **Dr. Ashutosh Dabli**. The panel discus-

sion started with a brief introduction of the topic, which was followed by each panelist sharing their thoughts on the subject. They highlighted the importance of



communication skills, critical thinking, and problem-solving abilities for an engineer to be successful in the industry. The panelists also discussed the need for engineers to be adaptable and willing to learn new skills as the industry continues to evolve. Along with this events were conducted to build their technical knowledge and give a practical experience. The events were as

follows; Urban Vison, Bridge Burst, Clash of CAD, Card Rush, & Technical Paper Presentation.

On 1st April 2023, A workshop was organised on Structural Audit

by Dr Yogini Deshpande maam. She's a specialist in infrastructure systems, sustainable construction, material health monitoring, repair and rehabilitation etc. Students were engrossed in a theoretical session for 3 hours covering the important aspects for increasing the life expectancy of a structure. After the lunch break a practical session was held where participants were given a hand on experience on tests like rebound hammer, carbonation test and UPV. In the evening the events continued. The Nirmaan fest was a grand success with huge participants and resulted as an opportunity for students to learn, develop new skills and execute their ideas.

- Ms. Deeksha Shetty
(Vice President, IGBC SC)

Panel Discussion with Industry Experts



On 31st March, Indian Green Building Council students' chapter of Vidyavardhini's College of Engineering and Technology of the Civil Engineering Department hosted a panel discussion titled '**Bridging the Gap Between Industry and Institute**' aimed at exploring ways to improve collaboration between the industry and academic institutes.

The panel discussion was moderated by a Ms. Deeksha Shetty, Vice President of IGBC of the Civil Engineering Department and had three guest speakers: **Mr. Pramod Mishra, Director of Detailed Steel Structures; Mr. Sunny Tathale, an experienced professional, and Dr. Sharvil Alex Faroz, Engineer in Operation and Maintenance Cost of Civil Structures.**

The main focus of the discussion was to highlight the gap that exists between the industry and the academic institutes, and how it can be bridged. The panelists shared their experiences and insights on the topic, and the discussion was followed by a Q&A session. The panelists emphasized the need for collaboration between the industry and academic institutes to ensure that the curriculum and training provided in academic institutes align with industry requirements. They also discussed the importance of practical training and exposure for students to prepare them for the industry. Overall, the panel discussion was insightful, and the audience gained a better understanding of the challenges and opportunities in bridging the gap between industry and academic institutes.

- Dr. Ajay Radke
(HOD Civil Engg. Dept.)

ABOUT US:



Vidyavardhini's College of Engineering and Technology, Vasai is located on the sprawling campus of Vidyavardhini, spread over an area of 12.27 acres. It is a short, two minutes walk from Vasai Road (W) Railway Station. The college is also accessible by road from Mumbai. Vidyavardhini Society received approval from AICTE to start the new college of Engineering & Technology with effect from July, 1994. The college is affiliated to the University of Mumbai for the four year degree program leading to the degree of Bachelor of Engineering.

VISSION:

To be a premier institution of technical education, aiming at becoming a valuable resource for industry and society.

MISSION:

- To provide technologically inspiring environment for learning.
- To promote creativity, innovation, and professional activities.
- To inculcate ethical and moral values.
- To cater personal, professional, and societal needs through quality education.

OSCILLATION 2K23

Oscillations is an intercollege student technical paper presentation annually organized by VCET in order to give due recognition to the inquisitiveness and creativity of students. The event had five tracks for the current Academic related to Mechanical Engineering, Electronics Engineering, Civil Engineering, Computer & Allied Branches. Oscillation received a resounding response, a total of 26 entries were received for Track 5 which was related to Civil Engineering and allied fields. The judging of the event was done by eminent professionals from industry for all the categories of papers received. The winners of Category A

were Mr. Amogh Raut, Mr. Siddhesh Jadhav, Mr. Abhishek Phadtare & Mr. Kevalkumar Choudhary - 1st prize. Mr. Atish Pradosh, Mr. Varun Valia, Ms. Tanmayee Tele, Ms. Sakshi Pashte - 2nd prize. The winners of Category B were Mr. Swapnil Kamble, Mr. Manthan Patil, Ms. Vidhita Ringanekar, Mr. Kunalsingh Parmar - 1st prize. Mr. Shawn Mathias, Mr. Shubham Sankhe, Ms. Durga Shelke, Ms. Nikita Shivdas - 2nd prize. The winners of Category C were Ms. Shreya Bari, Mr. Lingraj Birajdar, Mr. Chiraj Patil, Mr. Sagun Parab - 1st prize. Mr. Dhruv Kanakia, Ms. Sai Gosavi, Ms. Krutika Chavan, Ms. Apurva Jagtap - 2nd prize.



PROJECT SHOWCASE 2023

Project Showcase popularly known as VNPS is the intercollege National Level project showcase which is the biggest Technical Fest organized by Vidyavardhini's College of Engineering and Technology. VNPS is realized by the combined efforts of various departments' student committees: IEEE, ISA, CSI, IETE, VMEA, ISHRAE and CESA. They work in sync to provide a platform to the students with different project ideas to come together and present their ideas and innovations. VNPS aims to inspire students to think,

motivate and innovate. VNPS overall received 300+ project showcase entries from all round the nation. The project showcase judging was Major Project Category I, Major Project Category II, & Minor Project. The winners of Category I were Mr. Amogh Raut & group for their Project title Analysis of Road Pavement incorporating wireless charging. The winners for Category II were Mr. Harshad Pawar and group for their Project title Redesign of Water Distribution Network using Wa-

terGems Software. The winners for Category C were Ms. Shreya Bari & group for their Project title Planning & Design of Steel & RCC Bungalow.



INDUSTRIAL TRAINING

The goal of industrial training is to expose students to actual work in an industrial setting while also allowing them to learn through practical application and job performance. With this viewpoint the department along with placement cell is taking initiative to provide Industrial training to students. The companies that has offered internship to our students in this academic year are:



STUDENT DEVELOPMENT ACTIVITIES

"Learning is a treasure that will follow its owner everywhere." Expert technical lectures at colleges and universities teach students a lot. For the benefit of the learners, experts in their particular technical fields provide their knowledge through-Expert technical lectures.

1. **Mr. Bhavesh Mehta** delivered lectures on "Green Building Moment" & "Operational Excellence in Managing Green Campus".
2. **Mr. Junaaid Siddique** from Kalsekar Technical Campus delivered a session on "Design of Bridge Sub-

structure and Superstructure and it's application".

One week Student Development Program

1. **Mr. P. R. Barbude** delivered a session on "Professional Practices in Structural Engineering".
2. **Mr. Nilesh Lende** delivered a session on "Technical Writing and Presentation".
3. **Mr. P.V. Mule** delivered a session on "Need of Earthquake Resisting Structures".
4. **Mr. S.A. Rasal** delivered a session on "Application

of Prestressed Concrete".

5. **Dr. Ajay Radke** delivered a session on "Repairs & Retrofitting of RCC Structures".
6. **Mr. Jaydeep Chougale** delivered a session on "Software Applications in Design of RCC structures".



INDUSTRIAL VISITS

Civil engineer is nothing without its practical application. For the growth of the student, department have organized various industry visit for the students which gave students an outside approach to the world of knowledge. In this context

1. Visit to **Sewage Treatment Plant** at Gokul township at Virar (W). This visit helped the students to understand

the various processes adopted for treatment of sewage water and how such water are used for further application.

2. **Survey Project** was conducted at Suncity, Vasai which included the practical exposure of different surveys that are actually conducted on the field.

3. Visit to **Ameya RMC plant and Crushing**

plant was taken where the student got to know about the mix design and its procedure it its manufacturing plant.

4. Visit to **3SDM Business Solution Pvt. Ltd** was taken which showed the use of different LED lighting that can be used for the residential building.



STUDENTS' ACTIVITY & ACHIEVEMENTS:

- ♦ **Mr. Rahul Ray, Mr. Yogesh Mishra, Mr. Raj Naik, Mr. Hardik Mhatre** won Best Paper Award titled “ Design of Foundations for On-shore & Off-shore Wind Turbines — A state of the Art” at International Conference on Advances in Civil & Mechanical Engineering organized by Thakur College of Engineering.
- ♦ **Mr. Yash Bamania, Mr. Sachin Pal, Mr. Harshad Pawar** successfully submitted their Paper title “Redesigning of Water Distribution System of Virar Region using WaterGems” in Springer Conference Proceedings.
- ♦ **Ms. Asmita Dethe, Ms. Vaishnavi Patil, Mr. Lingraj Birajdar** secured First Place in Cube Testing competition organised by American Concrete Institute.
- ♦ **Ms. Shreya Bari, Ms. Purna Kasar** secured Second Place in Cube Testing competition organised by American Concrete Institute.
- ♦ **Mr. Bhushan Malvi, Mr. Sagun Parab, Mr. Chiraj Patil** secured Third Place in Cube Testing competition organised by American Concrete Institute.
- ♦ **Ms. Prajakta Borse** secured Second Place in VVCMC Rainwater Harvesting Poster Making Competition.
- ♦ **Ms. Kimaya Salunkhe** secured Third Place in VVCMC Rainwater Harvesting Poster Making Competition.
- ♦ **Mr. Faraz Ansari, Ms. Harshita Patil, Mr. Nitish Kambli,** received an appreciation letter from Kelthan Grampanchayat for submitting proposal of smart village construction to the Gram panchayat committee members.
- ♦ **Mr Bhushan Malvi, Ms. Asmita Dethe, Ms Vaishnavi Patil** received an appreciation letter from Jambulpada Gram panchayat for submitting proposal of Ferrocement Tank Construction to the Gram panchayat committee members.
- ♦ **Mr. Swapnil Kamble, Mr. Abhishek Singh, Ms. Vidhita Ringanekar, Ms. Vaishnavi Yadav** got selected as Trainee Officer in Detailed Steel Solutions Pvt. Ltd.
- ♦ **Mr. Yash Bamania & Mr. Yogesh Mishra** got selected as Trainee Engineer in Amaind Consulting Pvt. Ltd.
- ♦ **Ms. Shreya Bari** won 2nd prize in Intracollege Chess Tournament held during AVAHAAN 2023.
- ♦ **Ms. Shreya Bari** won 2nd prize in Intracollege Running event held during AVAHAAN 2023.
- ♦ **Mr. Dhruv Purav** won 1st prize in Intracollege Shot-put event held during AVAHAAN 2023.
- ♦ **Mr. Dhruv Purav, Mr. Deepkumar Patel, Mr. Pratham Patel** won 2nd prize in Intracollege Footvolley event held during AVAHAAN 2023.
- ♦ **Mr. Karthik Govare** won 2nd prize in Intracollege Singles Carrom event held during AVAHAAN 2023.
- ♦ **Mr. Prathamesh Gondhalekar** won 1st prize in Intracollege Table Tennis event held during AVAHAAN 2023.
- ♦ **TE Civil (Girls)** won 1st prize in Intracollege Cricket event held during AVAHAAN 2023.
- ♦ **TE Civil (Girls)** won 1st prize in Intracollege Kabaddi event held during AVAHAAN 2023.
- ♦ **TE Civil (Boys)** won 1st prize in Intracollege Overarm Cricket event held during AVAHAAN 2023.
- ♦ **SE Civil (Boys)** won 2nd prize in Intracollege Overarm Cricket event held during AVAHAAN 2023.
- ♦ **TE Civil (Boys)** Students won 1st prize in Intracollege Volleyball event held during AVAHAAN 2023.
- ♦ **BE Civil (Boys)** Students won 1st prize in Intracollege Tug of War event held during AVAHAAN 2023.
- ♦ **SE Civil (Boys)** won 2nd prize in Intracollege Footvolley event held during AVAHAAN 2023.
- ♦ **Mr. Aditya Kute, Mr. Omkar Ghanekar** won 1st prize in Instrumentals event held during Zeal 2023.
- ♦ **Ms. Kimaya Salunkhe** won 1st prize in Master Stroke event held during Zeal 2023.

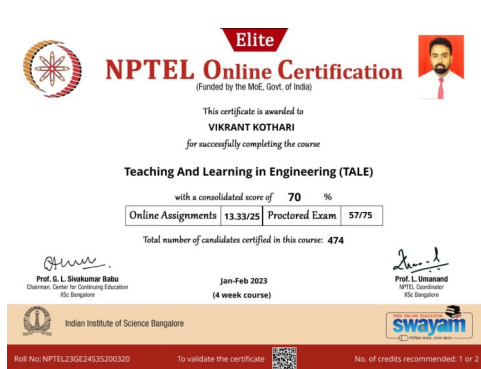
FACULTY ACTIVITY & ACHIEVEMENTS

- ♦ **Mr. Viren Chandanshive & Mr. Arbaz M. Kazi** research proposal title “*Prefabricated Bamboo-Reinforced Wall Panel*” was shortlisted for research grant under Rajiv Gandhi Science and Technology Commission.
- ♦ **Mr. Jaydeep Chougale** successfully completed three modules of National Institute of Technical Teachers' Training and Research.
- ♦ **Mr. Vikrant Kothari** successfully completed a NPTEL course on “Teaching & Learning in Engineering”.
- ♦ **Dr. Ajay S. Radke & Mr. Vikrant P. Kothari** published a book titled “*Repairs, Rehabilitation and Retrofitting of Structures*” from Tech Knowledge Publications.
- ♦ **Dr. Ajay S. Radke** is appointed as a consulting Structural Engineer for “Tata Memorial Hospital”
- ♦ **Mr. Viren B. Chandanshive, Mr. Vikrant P. Kothari & Mr. Arbaz M. Kazi** participated in “IP Awareness/Training program” under National Intellectual Property Awareness Mission.



As per the New Revised Syllabus (REV- 2019 'C' Scheme)
of Mumbai University w.e.f. academic year 2022-23

**Repairs, Rehabilitation and
Retrofitting of Structures**
(Code : CEDLO8021)
(Department Level Optional Course - 6)
Semester VIII - Civil Engineering
Vikrant P. Kothari Dr. Ajay S. Radke



INDUSTRY CONNECT:

On April 13th 2023, Vidyavardhini's College of Engineering and Technology, in partnership with the Board of Apprenticeship Training Western Region, organized an event called "Udyam Saman 2.0". The objective of this event was;

1. To facilitate dialogue and collaboration between the industry and the institute .
2. To bridge the gap between theoretical knowledge and practical application.
3. To create a platform for the exchange of ideas and information between academia and industry.
4. Strengthening the relationship between industry and the academic institution.

After the inauguration of the event which was followed by Panel Discussion, the Industrialists were taken for field visit to the department of Civil Engineering. Once the visit was completed , the industrialist Mr. Ratnakar Choudhari, Mr. Ganesh Awhad, Mr. Sanjay Yadav, Mr. Raviraj Shetty were introduced to department faculty by head of the department Dr. Ajay S. Radke. The industrialist interacted with the faculty and discussed about latest academic research while sharing their own practical experiences and knowledge with the faculty. The industrialist also discussed the problems pertaining in the field and how academicians and students can help them to overcome it leading to more increase in sponsored projects. Overall the event serves as a valuable opportunity for students, faculty and industry representatives to interact and collaborate, fostering growth and development of both academia and industry.



The Scam Called as “Sample Flat”

"Sample Flats" are among the biggest traps for buyers of real estate. The builder or the salesperson at the property site shows you a "Sample Flat" when you inquire about any under construction properties or ready for possession flats there. Something happens to you as soon as you look at a sample flat. The sample apartment is so lovely and alluring that you feel as though you are in love with someone again. Beautiful music begins to play in your head, and for a brief moment, you picture the future with your family living in the same apartment and how you and your loved ones will enjoy the ambiance and opulence it provides. Builders are skilled at manipulating your aspirations and taking advantage of the human mentality.



Sample Flat are “Scam”

The builder is well aware of the fact that everyone wants to provide the greatest home, the most roomy, and the most deluxe living conditions for themselves and their families. All of these factors are taken into consideration when creating an example flat, which is built in a way that will enchant you at first glance. The builder wants to make sure that your emotional mind is engaged and that it isn't allowed to question or think critically. The simplest way to deal with this issue is for purchasers or investors to compare an unfurnished flat to a sample flat in order to understand the differences. The owners or investors must request a list of the materials, amenities, appliances, wall paint and fixtures, including brand names, since this will prevent them from being seduced by the sample apartment's opulence. Since purchasing a property is a one-time decision, it is always preferable to be more in the moment (both physically and psychologically) and not make the choice quickly. One must understand that sample apartments are not real life.

- Mr. Arbaz M. Kazi
Asst. Professor, Civil Dept.

Introduction to Ferrocement

Ferrocement is a type of reinforced concrete made up of a cement-sand mortar mix and layers of small-diameter steel mesh or wire. It is a versatile and cost-effective building material that can be used for a wide range of applications, from building boats and water tanks to constructing homes and commercial buildings.

When it comes to ferrocement detailing, the key is to ensure that the layers of steel mesh or wire are evenly distributed and properly anchored within the cement-sand mortar mix. This helps to ensure that the finished structure is strong, durable, and able to withstand the stresses and strains of everyday use. In 1940 it was developed by P. L. Nervi, an Italian Architect.

Features of Ferrocement:

- High strength and durability
- Resistance to cracking
- Low cost
- Light weight
- Versatility in desired size and shape

Advantages:

- Easy to transport precast units.
- It doesn't require highly skilled labour.
- Elimination of formwork.
- Easy repair is possible.

Applications:

- Used in making boats
- Used as planks for shelves in housing
- Used in construction of sewage manhole covers
- Used in rural areas for low-cost housing
- Used in construction of small capacity water tanks
- Used in construction of Gazebo

- Mr. Bhushan Malvi
U.G Student (TE Civil), Civil Dept.

Mass Transit in India: A Need for Change



Urban mobility challenges are expanding along with the urbanisation process. India is experiencing a significant urban congestion issue, which has a variety of negative repercussions on the urban economy. Mumbai is the second-most populated city in the world, according to estimates. With the population growing so quickly, there is a greater need for alternative forms of transportation. According to estimates, India had the second-largest growth rate in the number of vehicles, increasing by 8.9% to 20.8 million units from 19.1 million in 2009. By 2030, the per-capita trip rate for all modes of transport is anticipated to rise to 1%-2%

from 0.8%-1.55% in 2007. With an estimated 60% of the nation's GDP coming from metropolitan regions, Indian cities are quickly establishing themselves as engines of economic growth, creating wealth, jobs, and better living conditions for everybody. There has been an increased migration from rural to urban areas as a result of the nation's rapid economic expansion. By 2021, 40% of the population is anticipated to reside in urban areas, up from the current 30%. Urban infrastructure, particularly urban transportation, is under tremendous pressure from growing urbanisation and unplanned, unregulated growth. Additionally, as people's economic levels have improved, they have purchased more private vehicles, which has resulted in more traffic on the roadways. The best approach to reduce traffic congestion is probably to use mass transit. MRT systems in India consist of the systems with their modes as the metro trains or the diesel/electric multiple units (DMUs/EMUs/MEMUs/DEMs). As the twenty-first century has begun, the country has seen the installation of MRT systems in numerous cities, including Delhi, Mumbai, Chennai, Bengaluru, Gurgaon, etc. Either the broad gauge track or the standard gauge track serves as the foundation for these systems. The increased space it gives inside the coach is a key advantage of using the broad gauge. The expense of travel and transit for the disadvantaged group in Indian metropolises is breaking all previous records. Due to the severe traffic congestion and urban growth within cities, adopting sustainable modes like walking and cycling has become all but impossible. Mass rapid transit systems offer viable answers to address the issues of traffic, congestion, and environmental degradation that Indian cities are currently facing. These can be surfaced, buried, or elevated. These are typically included in the MRTS that are presently being offered. While it typically hovers around 35% in Indian agglomerations, a city's public transport share has to be somewhere around 70% to be considered sustainable. Another hazard to the globe is the increasing energy demand and dwindling natural resources. Other challenges to the installation of mass fast transport include the rise in traffic accidents over the past few decades and the shortage of land in urban areas.

- Mr. Viren B. Chandanashive
Asst. Professor, Civil Dept.

Laxmi Vilas Palace - India's Own Buckingham

The private palace of Maharaja Sayajirao Gaekwad III was the Laxmi Vilas Palace, one of India's most spectacular buildings. This majestic palace, which is known to be the largest private residence and is the size equivalent to four times that of Buckingham Palace, is a must-see while in Vadodara. Laxmi Vilas Palace, a spectacular building, was built in 1890 and took close to twelve years to complete. It covers an area of around 700 acres and is still the residence of the Gaekwads, Vadodara's royal family. With domes, minarets, and arches, it is constructed in the Indo-Saracenic style, a fusion of Hindu, Gothic, and Mughal architectural features. The Laxmi Vilas Palace complex includes a number of additional structures, including the Maharaja Fateh Singh Museum building, Moti Baug Palace, and LVP Banquets and Conventions. Initially, the museum's edifice served as a school for the Maharaja's children. Today, it houses a remarkable collection of Raja Ravi Verma paintings together with other relics gathered from all around the world. The cost of construction of this palace is to be believed around ₹ 27,00,000.



- Mr. Jeevan Medge
U.G Student (TE Civil), Civil Dept.

ADT CELL AT START-UP FEST



On 24th March, Vasai—Virar Start up fest was organized by Entrepreneurship Cell of Vidyavardhini's College of Engineering & Technology. The purpose of the event was to spread entrepreneurship and startup concepts among Vasai Virar's residents and help the city grow by turning it into a startup hotspot. To promote its services for structural audit, structural design, and material testing, the ADT (Audit Design & Testing) Cell took part in the festival. The ADT cell is managed by department of Civil Engineering at VCET. The cell also gave the visitors information on the value of structural auditing, the municipality's by-laws, the procedure of structural audit, etc. The cell received positive feedback from the visitors, and a couple of the visitors even offered the cell to offer consulting services.

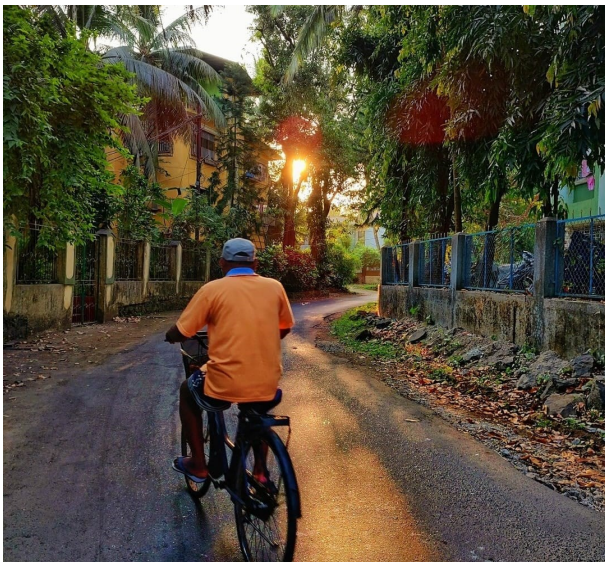
GLIMPSES OF STUDENTS ART



Prepared by: Mr. Raj Naik, BE Civil



Prepared by: Mr. Krunal Misal, FE Civil



Clicked by: Mr. Omkar Ghanekar , TE Civil



Clicked by: Mr. Harsh Sharma, TE Civil