

# CIVIL CHRONICLES

The newsletter of the department of civil engineering

## ‘SATTVA’- the Dept. Association gets Inaugurated

03/11/2022



A photo from the Inauguration ceremony of the Department Association

SATTVA, the Department Association for Civil Engineering, was inaugurated on 03.11.2022, by the esteemed Er. Sabu K. Philip, alongside Dr. Shinu Mathew John and other distinguished dignitaries. This significant event, attended by both faculty and students, included the unveiling of the association's logo, which beautifully symbolizes the essence of construction and design. During the ceremony, Dr. Shinu Mathew John commended the department's numerous achievements, while Er. Rijo Thomas John emphasized the vital practical applications of civil engineering in today's world. Originally planned as a two-hour

ceremony, the event evolved into a comprehensive two-day celebration, featuring an expert talk, an insightful site visit, and a hands-on workshop. This expansion allowed for deeper engagement and learning opportunities for participants. SATTVA has now established itself as a permanent platform for departmental programs, effectively streamlining organization and minimizing repetitive efforts. The initiative is led by final-year students Adithya K. and Akash P., who serve as the main coordinators, ensuring that the association continues to thrive and support the academic and professional aspirations of civil engineering students.



### Achievements



Mohammed Zahin P M was selected for the KTU F Zone table tennis team and represented his college in the men's team STM at the KTU F Zone tournament on 29/10/2022, where they secured third place. At the KTU Interzonal Table Tennis Tournament on 02/11/2022, Zahin's team reached the quarter-finals.



### VISION:

To grow as a globally recognized center in Civil Engineering with a focus on innovation and research by combining technical and ethical qualities.

### MISSION:

#### M1: Professional Skills

To provide a better environment to encourage innovative and research thinking among students.

#### M2: Life-Long Learning

Instill in students contemporary knowledge in order to achieve academic and professional excellence with global perspective through experience of lifelong learning.

#### M3: Engage with Society

Impart a sense of community responsibility and leadership qualities to better meet the challenges of sustainable growth.

# Site Visit- Kannur Municipal Corporation Building

03/11/2022



Students during the site visit

Beyond the entire design equations and IS recommendation, it takes a routine field visit for a civil engineering student to understand the real picture of a worksite. A regular field visit thereby couples the textbook knowledge and the practical applications. However, the site visit on 3/11/2022 provided something more than that to the entire second year crew. Mr. Biju Kumar, the executive engineer guided our students through the recently set worksite of the Kannur Municipality Corporation building. The entire engineering team and workforce under the executive engineer were ready at site, sharp at 2:00 PM when the students and faculty team reached. After a 15-minute safety class, the students along with the site engineers roamed around the proposed 10-story building

safety jackets and helmets, scribbling on their field books, asking doubts and observing things. A foundation specification observed at the site was identified by owing largely to their textbook. On the massive reinforcement case at an excavated depth of 3.52 meters, the students distinguished main bars, tension bars, double bars, etc. Some of them even attempted to sketch the reinforcement system. A shear wall at the site was demonstrated by the site engineer, Ms. Anusree A, one of the aluminees at the department of CE at STM. The practices on field may vary slightly on field based on the condition. Curing methods likely differ from those studied from the textbooks were observed, due partly

to the availability of water and convenience of labors. Equipment used for batching, mixing and compacting were demonstrated by their respective operators. The workers opened up their experiences based on the practical difficulties on field hours, along with the solution to overcome them. 'Nowadays, demonstrations are available on internet'-engineer Biju Kumar says. 'However, the actual practice may vary based on the property of soil, water availability, climate and so on, which strongly demands a direct field visit and interaction with the workers there'-he added.

## Achievements

### Faculties bagged teaching excellence award-2022

22/11/2022



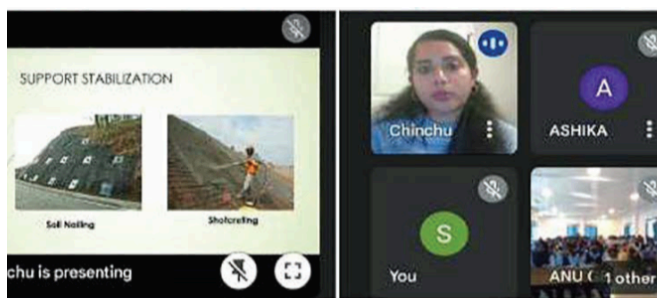
Teaching excellence awards for the 2021-2022 academic year were given to Mrs. Greeshma C S and Mr. Harishankar N from the civil engineering department during a ceremony on 22/11/2022 at the college PTA meeting. Mr. Shinu Mathew John commended the department's outstanding academic performance, and the event was attended by parents, faculty, and students from various branches, with additional recognition for students with exceptional results.



Ms. Sayana M received complement for success in Nptel exam.



Mrs. Anu George enrolled for PhD at Christ University, Bangalore.



Photos from the expert talk

## Expert Talk on "Stability of Soil"

03/11/2022

An enlightening online talk session on "Stability of Soil" was successfully conducted on November 3rd, 2022, connecting students directly with Ms. Chinju K. Thiryan, a distinguished Research Engineer at the University of British Columbia (UBC), Canada. Held via Google Meet, this dynamic session served as a vital platform for global knowledge exchange, demonstrating that invaluable learning and interaction can transcend geographical boundaries. The event offered students a rare opportunity to gain firsthand, expert insights into the critical field of soil technology and its real-world implications.

Ms. Chinju captivated the audience with her highly engaging and interactive approach. A pivotal moment came when a curious S5 student asked a direct and urgent question: Why does Kerala continue to face annual, devastating landslides? Her answer was clear, direct, and thought-provoking, immediately shifting the focus from technological solutions to societal practices. Ms. Chinju explained that the root of the escalating problem is not a deficit in technology or scientific understanding, but rather the widespread adoption of unscientific and unsustainable practices.

She specifically pointed to damaging practices such as improper earth-moving, unplanned land reclamation, and rampant deforestation as the primary culprits destabilizing the region's soil. The session culminated in a powerful appeal for a fundamental change in mindset among both the general public and policymakers. Ms. Chinju strongly advocated for the urgent implementation of sustainable practices and rigorous scientific land-use planning to mitigate future disasters. She also highlighted the essential role of researchers in both identifying vulnerabilities and driving effective revival and remediation actions, drawing upon her own experiences in tackling these complex challenges. Her exceptional ability to simplify highly complex geotechnical issues made the session not only effective but also deeply relatable and inspiring for the student participants.

## Expert Talk on "Highway Accidents and Mitigation Measures" Marks Department Association Inauguration

04/11/2022



Photos from the expert talk

The Department Association successfully kicked off its inaugural year on Friday, November 4th, 2022, with a highly informative online talk titled "Highway Accidents and Mitigation Measures." The session featured the distinguished expertise of Mr. Sabu K. Phillips, retired Superintendent Engineer, PWD, MOD, a veteran in the field boasting over 40 years of professional experience. Mr. Phillips immediately engaged the audience with his compelling presentation, embodying his personal philosophy that "experience is the best teacher" through a wealth of practical insights. The talk offered a comprehensive dive into critical aspects of modern highway engineering, moving beyond theoretical concepts to address real-world challenges. Key areas covered included the intricacies of highway design elements, the complexities faced during land acquisition, the influence of political interventions on projects, and an analysis of unnoticed loopholes in current traffic regulations. By drawing from his extensive career, Mr. Phillips shared numerous real-world scenarios and effective solutions, giving students a profound, practical understanding of the multifaceted complexities involved in developing safe and efficient road infrastructure. Far from being merely academic, the session was truly inspirational, as Mr. Phillips underscored the vital importance of actively addressing these challenges to significantly improve road safety and reduce accidents. His ability to blend detailed technical knowledge with relatable anecdotes and practical demonstrations ensured the audience remained captivated throughout, making the session both impactful and memorable. The success of this inaugural event has effectively set a high and meaningful standard for the Department Association, clearly demonstrating its commitment to forging a crucial link between academic learning and indispensable real-world professional expertise.



# Workshop for a central library

04/11/2022



Photos from the workshop

The workshop's comprehensive structure, seamlessly moving from theory to practical application, culminated in several significant educational outcomes for the students involved. The initial demonstration session, handled by the experienced Civil Engineering faculty, ensured all participants possessed a standardized understanding of the required surveying and drawing protocols. This foundation was immediately tested on the challenging STM Campus terrain. The coordination by the lab staff during the fieldwork was crucial, guaranteeing that students utilized the surveying equipment correctly and safely, turning abstract textbook concepts into tangible, measurable data points.

The detailed land measurement phase, executed by students in two shifts, was a masterclass in professional discipline. The necessity of establishing survey stations and meticulously arranging and measuring the site required precision and teamwork, mirroring the demands of an actual construction project where accuracy is paramount to budget and schedule integrity. The transformation of raw field data into professional drawings constituted the most demanding and rewarding part of the exercise. Students had to translate three-dimensional, irregular site conditions into two-dimensional plans, elevations, and sections, requiring a deep understanding of

engineering graphics and building codes. The competitive environment spurred exceptional design quality, as evidenced by the "handful of ideas that blossomed" into well-thought-out library proposals.

The final stage of expert panel evaluation provided an invaluable, authentic learning experience. Unlike a standard assignment graded by a single faculty member, this panel assessment forced students to think beyond technical correctness. Judges evaluated not only the accuracy of the site measurements and drawings but also the creativity, feasibility, sustainability, and efficiency of the proposed Central Library designs. The ultimate recognition of a single winner, determined by performance in both the field accuracy and design innovation, reinforced the principle that successful civil engineering requires both rigorous execution (fieldwork) and imaginative problem-solving (design). The prize money served as a tangible acknowledgment of excellence, encouraging future cohorts to strive for the same high standards of professionalism and practical proficiency. This workshop set a new benchmark for integrated practical learning, preparing students not just for exams, but for successful careers in the construction industry.

## Achievements



Mr. Abhimanue K won the competition based on his excellent performance in proposing the central library and received a prize money.

# To the survey field with a total station

10/12/2022

On December 10, 2022, a comprehensive full-day workshop on Total Station surveying was organized specifically for second-year students of the Civil Department. This initiative aimed to bridge the gap between theoretical knowledge and practical application in the field of surveying. The workshop was expertly led by a seasoned operator from ALG Information Systems, ensuring that students gained valuable insights into the use of this sophisticated equipment.

The day began with an informative introduction to Total Station surveying, followed by live demonstrations that showcased the instrument's functionality. Students then engaged in hands-on practice on the college grounds, where they

worked collaboratively in small groups to set up the Total Station. This experience allowed them to familiarize themselves with the various components and operations of the device while honing their skills in land measurement with remarkable precision. In addition to the practical aspects, the workshop included essential training on data management. Participants learned how to interpret survey data effectively using specialized software, which is crucial for modern surveying practices. The workshop also tackled the issue of limited access to high-cost surveying equipment, thus providing students with a rare and valuable opportunity to gain practical experience that is often difficult to obtain in academic settings.

The feedback from participants was overwhelmingly positive, highlighting the significant practical skills they acquired throughout the session. This hands-on experience not only enhanced their understanding but also boosted their confidence in using surveying technology professionally. The workshop was coordinated by Mrs. Ashika K. and Mr. Srinath M. K., who ensured that everything ran smoothly. As a token of their participation, students received certificates, which further enriched their surveying competencies and improved their employability in the competitive job market.



## Placement offers



Shamjas K T got placed at Skyline Builders



Fathimath Sahala P and Thushara P V got selected in Planet Spark

## PROGRAM SPECIFIC OUTCOMES (PSOs)

### PSO1

To solve engineering problems related to Civil Engineering by systematic techniques, skills and tools to meet the ever growing needs of sustainable infrastructural development.

### PSO2

Design and build Civil Engineering-based systems in the context of structural, geotechnical, transportation and environmental requisites.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

### PEO1

Achieve excellence in the professional practices of Civil Engineering by utilizing the acquired knowledge and technical skills supported by modern day tools.

### PEO2

Participation in decision making and nation building by adopting energy efficient and sustainable practices in Civil Engineering.

### PEO3

Encourage innovative thinking and entrepreneurship by research and higher studies in advanced areas of Civil Engineering.

**PROGRAM OUTCOMES (POs)**

**Engineering Graduates will be able to:**

**PO1**

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2**

Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3**

Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4**

Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO5**

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO6**

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7**

Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8**

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9**

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10**

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11**

Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12**

Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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