

CIVIL CHRONICLE

FEBRUARY 2026 / VOL. 9



NEWSLETTER BY DEPARTMENT OF CIVIL ENGINEERING
ADI SHANKARA INSTITUTE OF ENGINEERING AND TECHNOLOGY, KALADY
APPROVED BY AICTE, NEW DELHI. AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL
UNIVERSITY, KERALA

DEPARTMENT VISION

•“TO EMERGE AS A CENTRE OF
EXCELLENCE IN CIVIL
ENGINEERING WITH GLOBAL
PERSPECTIVES.”

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DEPARTMENT MISSION

- TO IMPART QUALITY PROFESSIONAL EDUCATION SO THAT THE STUDENTS EMERGE AS A COMPETENT PROFESSIONAL IN THE AREA OF CIVIL ENGINEERING.
- TO PROMOTE INNOVATIVE THINKING AND LIFELONG LEARNING IN BUDDING ENGINEERS.
- TO PRODUCE CIVIL ENGINEERS WHO HAVE IMBIBED ETHICAL VALUES TO SERVE THE SOCIETY AND NATION.



PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- GRADUATES WILL HAVE A POTENTIAL TO PURSUE HIGHER STUDIES AND RESEARCH IN THE FIELD OF CIVIL ENGINEERING.
- GRADUATES WILL BE ABLE TO PRODUCE SUSTAINABLE SOLUTIONS WITH PROFESSIONAL ETHICS FOR REAL TIME CIVIL ENGINEERING PROBLEMS.
- GRADUATES WILL HAVE MANAGERIAL SKILLS AND LEADERSHIP QUALITIES IN EXECUTION OF CIVIL ENGINEERING PROJECTS.
- GRADUATES WILL BE ABLE TO WORK WITH INTEGRITY AND ETHICAL VALUES.



PROGRAM SPECIFIC OUTCOMES (PSOs)

AFTER SUCCESSFUL COMPLETION OF B.TECH IN CIVIL ENGINEERING, THE STUDENTS WILL BE ABLE TO:

- CHECK THE FEASIBILITY AND SUSTAINABILITY OF CIVIL ENGINEERING PROJECTS BY CONDUCTING GEOTECHNICAL INVESTIGATION, CIVIL ENGINEERING SURVEY AND ENVIRONMENTAL IMPACT ASSESSMENT.
- ANALYSE AND DESIGN BUILDINGS, HYDRAULIC STRUCTURES AND WATER DISTRIBUTION, WASTE MANAGEMENT AND TRANSPORTATION SYSTEMS.
- EXECUTE CIVIL ENGINEERING PROJECTS WITH THEIR KNOWLEDGE IN ESTIMATION, PROJECT MANAGEMENT, CONSTRUCTION MATERIALS AND TECHNOLOGIES.



**DEPARTMENT OF
CIVIL ENGINEERING**

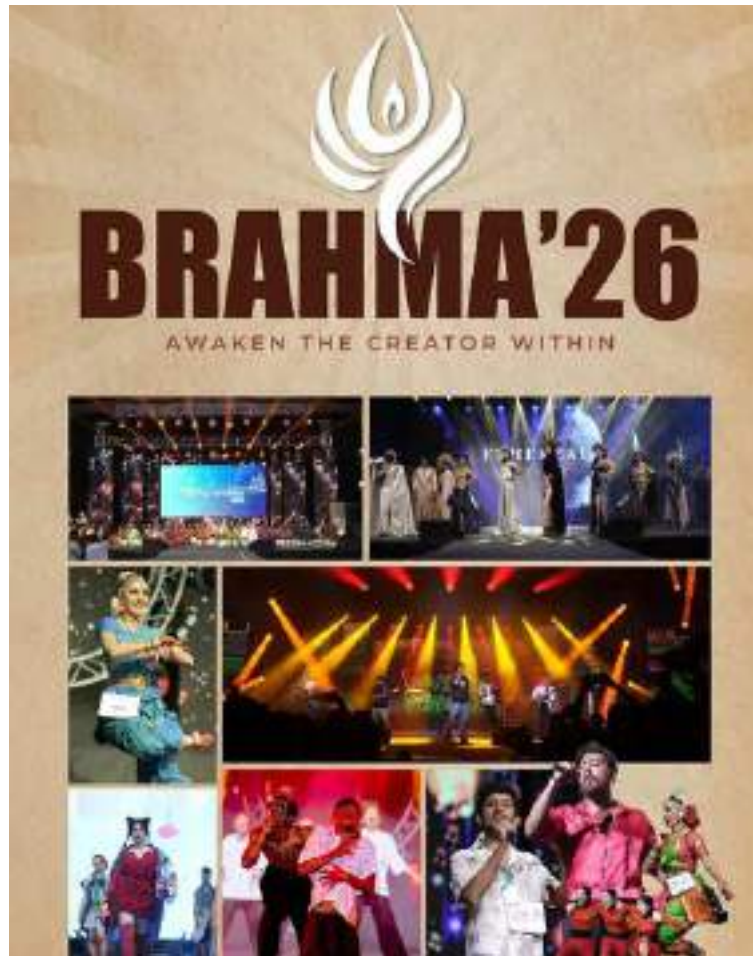
ASWAMEDHA 2026



Adi Shankara Institute of Engineering and Technology (ASIET), Kalady, hosted Aswamedha 2026, one of its flagship technical fests, bringing together students, innovators, and technology enthusiasts for a vibrant celebration of knowledge and creativity. The event was organized on 5th February 2026 at the ASIET campus and witnessed enthusiastic participation from students across various departments.

Apart from the technical competitions, Aswamedha 2026 created a lively campus atmosphere with enthusiastic student participation, creative displays, and vibrant teamwork. The event highlighted the spirit of innovation and learning that characterizes the academic culture of ASIET.

BRAHMA'26



Brahma'26, one of the most anticipated cultural events of the year, was held at Adi Shankara Institute of Engineering and Technology on 6th, 7th and 8th February 2026. With a plethora of thrilling events and competitions planned for participants, the fest delivered an unforgettable fiesta filled with creativity, talent, and vibrant energy. Students actively participated in various cultural, artistic, and technical competitions, showcasing their skills and enthusiasm.

The three-day celebration transformed the campus into a lively hub of music, dance, art, and entertainment, fostering camaraderie and team spirit among students. Brahma'26 stood as a grand success, leaving behind cherished memories and a strengthened sense of community within the institution.

BRAHMA'26



INSTITUTE EVENTS

AWARENESS PROGRAM ON CERVICAL CANCER



Cervical cancer awareness program was organized by the Women Empowerment Cell of ASIET on 27th January 2026 at College Auditorium in association with Little Flower Hospital and Women's Indian Medical Association (WIMA). Students from the department actively participated in the program and benefited from the informative session.

WATER RESOURCES DEPARTMENT, KERALA THIRD-PARTY AUDIT



The Department of Electronics and Communication Engineering (ECE), Adi Shankara Institute of Engineering and Technology (ASIET), was selected to carry out a third-party audit for the Water Resources Department (WRD), Kerala, focusing on the instrumentation of dam hydrologic parameters at Siruvani Dam, Palakkad. The inspection was successfully completed under the leadership of Dr. Ajay Kumar, Professor and HOD, ECE Department. The team was accompanied by officials from BSNL, ITI, and WRD, whose support and coordination contributed significantly to the smooth execution of the audit. Dr. P K Suresh, Senior Professor of the Department of Civil Engineering was also an integral part of the team, providing valuable technical expertise throughout the inspection process.

SCHOOL OUTREACH PROGRAMME



As part of the School Outreach Programme, the Faculties of Department of Civil Engineering interacted with the students of St Thomas Higher Secondary School, Malayattoor on 26th February 2026. The session was highly successful and informative, with detailed discussions on the KEAM and JEE examination patterns, preparation strategies, and career opportunities in Engineering. Dr. Aneesh P C, Associate Professor, Mr. Abin Joy, Ms. Harshananda T N, Assistant Professors of the department along with Mr. Ramesh C T of Department of Physical Education visited the school and interacted with the students.

DEPARTMENT EVENTS

INDUSTRIAL VISIT -S2 CE



The Department of Civil Engineering organised an industrial visit for S2 Civil Engineering Students to Mattupetty dam on 28th February 2026. The visit provided students with valuable practical exposure to reservoir operations, dam structure, and water resource management practices. During the visit, students observed the functioning of spillways, reservoir storage systems, and safety measures adopted for efficient water regulation. Students were guided by Ms. Veena S Kumar, Assistant Professor and Mr. Parthasarathy P N, Technical staff of the department.

TALK ON LOCAL AND GLOBAL PROJECTS WITH REAL TIME VISUALISATION USING VIRTUAL REALITY (VR)



A talk on “Local and Global Projects with Real Time Visualisation using Virtual Reality (VR)” was conducted on 20th February 2026 for the S6 and S8 students of the department at the Civil Seminar Hall. The session was handled by Rohith R Pai, Design Engineer at KSmart. He shared valuable insights into the application of Virtual Reality (VR) in both local and international infrastructure projects.

The session explained how VR technology enables Engineers, Architects, and Stakeholders to experience immersive 3D models of projects before actual implementation, thereby improving accuracy, reducing errors, and enhancing decision-making. The session was coordinated by Mr. Abin Joy, Assistant Professor of the department.

WORKSHOP ON SKETCHUP



As part of Aswamedha 2026, a technical workshop on Sketchup was successfully conducted by the Department at the CCF laboratory, ASIET. on 5th February 2026. The session was led by Ms. Anjusha, CADD Campus, Aluva. The workshop was organized to introduce students to the fundamentals of 3D modeling and visualization using SketchUp. The workshop aimed to familiarize participants with essential tools and techniques in SketchUp, enabling them to create basic 3D models and architectural visualizations. Participants were guided through the software interface, drawing tools, modeling techniques, and rendering concepts. The hands-on session helped students gain practical exposure to digital modeling, which is widely used in architecture and civil engineering design. The event was coordinated by Ms. Reema Pius, Assistant Professor of the department with the support of student coordinators Nimisha K Santhosh and Abinraj M R of S8 CE.

WORKSHOP ON BIM



The Department of Civil Engineering at Adi Shankara Institute of Engineering and Technology successfully conducted a Building Information Modelling (BIM) Workshop as part of the technical fest Brahma 2026 on 7th February 2026. The workshop aimed to introduce students to the fundamentals and practical applications of BIM in modern construction and project management. The session was led by Mr. Raghu Velayudhan, CADD Campus, Aluva.

The session was organized at the CCF Lab and provided hands-on exposure to BIM tools and concepts, enabling participants to understand how digital modelling can enhance planning, coordination, and efficiency in construction projects. During the workshop, participants were guided through the process of creating and managing building models using specialized software. The event was coordinated by Ms. Reema Pius, Assistant Professor of the department with the support of student coordinators Abinraj M R and Nimisha K Santhosh of S8 CE.

KTU - S7 RESULTS

2022-26 Batch KTU S7 Result

Congratulations to toppers

 Ajith M S 9.20	 Kadeeja Shafnas A A 9.20	 Saliha M Anwar 9.00
 Abinraj M R 8.87	 A V Ramanathan 8.80	 Krishnaveni E K 8.73
 Amrutha C M 8.60	 Minnu T M 8.37	 Jyothika A Anilkumar 8.27
 Sethulakshmi K R 8.27	 Gopika Shanavas 8.20	 Sivani P Anil Kumar 8.03

DEPARTMENT OF CIVIL ENGINEERING
Adi Shankara
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE & Affiliated to APJ Abdul Kalam Technological University
Vengaloor, Kerala - 686022. Phone: 0471-2551111. Email: info@adishankara.edu.in

STUDENT ACHIEVEMENTS

CONFERENCE PRESENTATION AT NIT, CALICUT



Aaquib Abbas, Muhammed Favas K M, and Muhammed Fazil P B of S8 CE participated in an international-level conference at National Institute of Technology Calicut. Their presentation was delivered with exceptional clarity and confidence, earning high appreciation from the conference chair as well as the audience.

STUDENT ACHIEVEMENTS

C PRIZE SCHOLARSHIP WINNER



Richard George of S8 CE has been awarded the prestigious C - Prize Scholarship instituted by the National Council for Technology and Training (NACTET) in association with Armstech Engineers Pvt. Ltd.

STUDENT ACHIEVEMENTS

PTA AWARD FOR ACADEMIC EXCELLENCE



Kadeeja Shafnas A A of S8 CE, Merinda Rose Shijan of S6 CE and Thushara Girish of S4 CE were honoured with the PTA Award of Excellence in recognition of their outstanding academic performance during the 2024-2025 academic year. The awards were presented during the PTA Executive Committee meeting held on 21st February 2026 in the Main Seminar Hall.

STUDENT ACHIEVEMENTS

STUDENT PARTICIPATIONS IN BRAHMA'26

- Nimisha K Sathosh and Abinraj M R of S8 CE were the Department level Technical Coordinators during Brahma 2026 and coordinated the workshops on Sketchup on 5th February 2026 and BIM on 7th February 2026.
- Amal A A and Richard George of S8 CE were the coordinators of the event Soapy Soccer during Brahma'26.
- Athul Baby and A V Ramanathan of S8 CE were the coordinators of the event BGMI TDM held during Brahma'26.
- A V Ramanathan and Devapriya E P of S8 CE were the coordinators of the event Structostick during Brahma'26.
- Amrutha C M and Jyothika A Anilkumar of S8 CE secured first prize for the event Structostick during Brahma'26.
- Thushara Girish, Nadhiya Yousef, and Emily A J of S4 CE participated in "Civil Clash" during Brahma 2026. Through their teamwork and skills, they performed well in the event and secured the 3rd prize.



STUDENT ACHIEVEMENTS

STUDENT PARTICIPATIONS IN BRAHMA'26



Arundhathy Suresh of S4 CE participated in “Band of Brahma” conducted as part of Brahma’26, the National Level Techno-Cultural Fest of Adi Shankara Institute of Engineering and Technology. She was also a part of the prestigious Thyagaraja Aradhana, showcasing her dedication and talent in music.

STUDENT ACHIEVEMENTS

FACULTY CONTRIBUTIONS



Dr. K Dhanasekar
Professor & HOD

Dr. K Dhanasekar, Professor and Head of the Department has successfully published a book titled “Fluid Mechanics”, making a significant contribution to the field of Engineering education.



Dr. P K Suresh
Senior Professor

Dr. P K Suresh, Senior Professor of the Department served as a Jury Member for the “Armour Unit” session at the IAHR YPN Hackathon organized by the International Association for Hydro-Environment Engineering and Research (IAHR) Young Professionals Network in association with the Department of Ocean Engineering at Indian Institute of Technology Madras on 21st February 2026.

STAFF OUTREACH

BEHAVIOUR OF MICACEOUS SAND

Micaceous sand is a type of soil that contains a significant proportion of mica minerals such as Muscovite and Biotite. These minerals are characterized by their thin, flaky, and plate-like structure. Due to this unique particle shape and mineral composition, micaceous sand exhibits engineering behaviors that differ significantly from ordinary quartz sand.

Micaceous sands are commonly found in areas where rocks containing mica undergo weathering and erosion. The presence of mica in sand alters its mechanical properties, making it an important material of study in geotechnical engineering. Understanding the behavior of micaceous sand is essential when designing foundations, embankments, and other civil engineering structures.

Physical Characteristics of Micaceous Sand

The most distinctive feature of micaceous sand is the presence of mica flakes. These flakes are usually very thin, flexible, and have a smooth surface. Because of their plate-like shape, they tend to align in layers when the soil is subjected to compaction or loading.

Micaceous sand generally has a shiny or glittering appearance due to the reflective nature of mica minerals. Compared with normal sand, it typically has a higher void ratio because the flat particles do not pack as efficiently as rounded sand grains.

The specific gravity of mica minerals is slightly lower than that of quartz, which also affects the overall density of the soil. As a result, micaceous sand usually has lower bulk density than clean sand deposits.

Shear Strength Characteristics

One of the most important engineering properties affected by the presence of mica is

is shear strength. The flat and smooth surfaces of mica particles reduce the friction between soil grains. Because of this, micaceous sand generally exhibits lower shear strength compared to sands composed mainly of quartz particles. The mica flakes tend to slide over each other when subjected to shear stress, which reduces the soil's resistance to deformation and failure. In geotechnical engineering, this behavior can lead to reduced stability of slopes and foundations constructed on micaceous sand. Structures built on such soils may require special design considerations or soil improvement techniques.

Compressibility and Settlement

Micaceous sand also shows higher compressibility compared with ordinary sands. Under loading conditions, the mica particles may reorient themselves and compress, leading to greater settlement. When loads are applied to foundations resting on micaceous sand, the soil structure tends to rearrange due to the flexible and platy nature of mica. This can cause significant settlement over time, especially if the soil layer contains a high percentage of mica. This behavior makes micaceous sand less desirable for supporting heavy structures, unless adequate ground improvement methods are implemented.

Compaction Characteristics

Compaction of micaceous sand is often more difficult than compaction of clean sand. The plate-like mica particles prevent dense packing of soil grains. As a result, achieving the maximum dry density during compaction becomes challenging. During compaction, mica flakes may align in a particular direction, which affects the soil structure and its engineering properties. The presence of mica can also cause the soil to exhibit lower compaction efficiency, meaning higher compactive effort may be required to reach the desired density.

Permeability and Drainage

The permeability of micaceous sand can vary depending on the arrangement of mica particles. In some cases, the presence of mica flakes can create pathways for water flow, increasing permeability. However, if the flakes align closely and block pore spaces, the permeability may decrease. This variability means that the drainage behavior of micaceous sand is not always predictable, and detailed site investigation is necessary when such soils are encountered in engineering projects.

Engineering Implications

Micaceous sand can pose several challenges in civil engineering projects. Due to its lower shear strength and higher compressibility, it may cause problems such as:

- Excessive settlement of foundations
- Reduced bearing capacity
- Instability of slopes and embankments
- Difficulty in achieving proper compaction

Engineers often address these issues through soil stabilization techniques, improved compaction methods, or the use of deep foundations where necessary.

Conclusion

Micaceous sand is a soil type characterized by the presence of mica minerals such as muscovite and biotite. The flaky and plate-like structure of mica significantly influences the engineering behavior of the soil. Compared with clean sand, micaceous sand generally exhibits lower shear strength, higher compressibility, higher void ratio, and lower compaction efficiency. These properties can affect the stability and performance of engineering structures built on such soils.

Therefore, careful investigation and appropriate engineering measures are necessary when micaceous sand is encountered in construction projects. Understanding its behavior helps engineers design safer and more stable foundations and earth structures.



Mr. Abishek Kumar A A
Assistant Professor

THE FUTURE OF INFRASTRUCTURE: HOW IoT IS REVOLUTIONIZING CIVIL ENGINEERING

The Internet of Things (IoT) is transforming the way we design, build, and maintain infrastructure. The fusion of civil engineering and IoT is giving rise to smart infrastructure that is more efficient, sustainable, and resilient. In this article, we explore the exciting possibilities of IoT-enabled civil engineering projects and their potential to shape the future of urban development.



Smart Infrastructure: The Next Generation

IoT sensors embedded in roads, bridges, and buildings are enabling real-time monitoring, predictive maintenance, and optimized performance. This is achieved through the use of advanced sensors, data analytics, and machine learning algorithms that detect anomalies, predict failures, and optimize energy consumption.

- Predictive Maintenance: IoT sensors detect early signs of deterioration, allowing for proactive maintenance and reducing downtime.
- Energy Efficiency: Smart buildings optimize energy consumption, reducing waste and costs.

Digital Twins: Virtual Replicas of Physical Infrastructure

Digital twins are virtual replicas of physical infrastructure that simulate scenarios, predict failures, and optimize design. This technology enables engineers to test and validate designs, reducing errors and improving overall efficiency.

Smart Cities: Sustainable Urban Ecosystems

IoT-enabled smart cities are transforming urban development, creating sustainable ecosystems that improve quality of life. Smart cities leverage IoT sensors, data analytics, and AI to optimize energy consumption, waste management, and transportation systems..



A V Ramanathan
S8 - CE

CHIEF EDITOR



Dr. K DHANASEKAR

STAFF EDITOR



Ms. REEMA PIUS

STUDENT EDITORS



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S8 CE



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S8 CE



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S8 CE



Merinda Rose Shijan
S8 CE



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S6 CE



Afsa Usman
S4 CE



Anaina Parvin T K
S4 CE



Thamanna P S
S4 CE

HOD'S MESSAGE



AS THE DEPARTMENT HEAD, I ENVISION OUR COLLEAGUES AND STUDENTS WALKING HAND IN HAND, COLLECTIVELY CONSTRUCTING INNOVATIVE IDEAS FOR A MORE DEVELOPED NATION.
LET'S CONTINUE THIS MOMENTUM AND STRIVE FOR EXCELLENCE IN ALL OUR ENDEAVOURS.