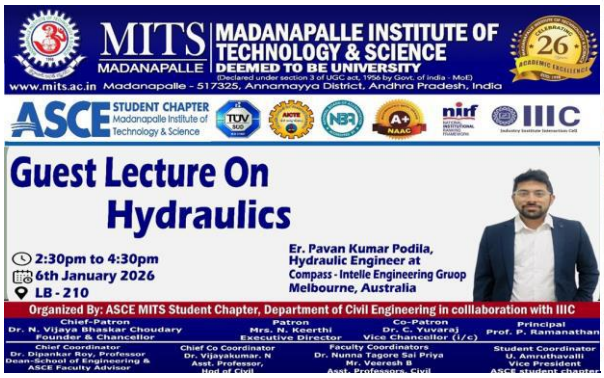
MITS
MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(Deemed to be University under section 3 of UGC Act, 1956)

A Report on Guest Lecture on "Hydraulics"

in Association with

ASCE Student Chapter in Collaboration with IIIC

on 6th January 2026



Report Submitted by: Dr. N.T. Sai Priya, Assistant Professor, Department of Civil Engineering; Mr. Veeresh B, Assistant Professor, Department of Civil Engineering.

Mode of Conduct: Offline

Report Received on 22.01.2026.

Introduction:

In the present era of rapid infrastructure development and increasing demand for sustainable water management, a sound understanding of hydraulics is essential for civil engineering graduates. Hydraulics plays a crucial role in the planning, design, and execution of water supply systems, sewerage networks, storm water drainage, fire protection systems, and other public utility services. With the objective of strengthening practical knowledge and exposing students to real-world engineering applications, the Department of Civil Engineering, Madanapalle Institute of Science & Technology (MITS), organized a Guest Lecture on Hydraulics as part of its academic enrichment and industry–institute interaction activities.

The guest lecture was delivered by Mr. Pavan Kumar Podila, Hydraulic Engineer at Compass-Intelle Engineering Group, Australia. He completed his Bachelor's degree in Civil Engineering from Bapatla Engineering College and obtained his Master's degree in Construction Management from Deakin University, Melbourne. With academic exposure in India and professional experience in the Australian construction industry, the resource person possesses strong expertise in hydraulic services design and execution of large residential and commercial projects. His professional background enabled him to share valuable real-time insights into practical hydraulic engineering systems and design approaches.

The primary intention of organizing this guest lecture was to bridge the gap between classroom learning and professional practice by providing students with an understanding of contemporary hydraulic design methods, standards, and site-level challenges. The session also aimed to familiarize students with professional responsibilities, ethical practices, and multidisciplinary coordination involved in hydraulic engineering projects, thereby encouraging them to relate theoretical concepts with practical implementation.

Objective of the Visit:

The Guest Lecture on Hydraulics was organized with the following objectives:

- To enhance students' understanding of fundamental and applied concepts in hydraulics related to water supply, sewerage, stormwater drainage, fire protection, and gas services.
- To expose students to real-time hydraulic engineering practices and design considerations followed in professional projects.
- To bridge the gap between theoretical classroom learning and practical field-level applications.
- To create awareness about the importance of engineering standards, regulatory guidelines, and ethical practices in hydraulic design.
- To motivate students to actively participate in technical events and utilize such platforms for continuous learning and professional development.

Overall Program:

The session commenced with a formal inaugural address by Dr. N. T. Sai Priya, who warmly welcomed the gathering and gave a brief introduction of the resource person. She highlighted the academic background, professional journey, and industry exposure of the speaker, emphasizing the relevance of the session to civil engineering students. Her introduction set a strong foundation for the technical deliberations that followed.

Subsequently, the Head of the Department, Civil Engineering, addressed the students and spoke about the importance of quality education, professional ethics, and disciplined work culture in engineering practice. Sir highlighted the strong work culture followed in Australia and emphasized how commitment, responsibility, and teamwork contribute to professional success. He encouraged students to actively utilize guest lectures and similar academic events as platforms for gaining practical knowledge beyond classroom learning.

Following the inaugural session, the guest lecture was delivered by Mr. Pavan Kumar Podila, Hydraulic Engineer at Compass-Intelle Engineering Group,

Australia. In his lecture, he provided comprehensive insights into hydraulic engineering systems commonly adopted in modern infrastructure projects. The session covered key aspects such as potable and non-potable water supply systems, hot and cold water distribution, gas services, fire protection systems, sanitary sewerage systems, and storm water management practices.

The speaker explained the importance of adhering to design standards, authority guidelines, and regulatory requirements while designing hydraulic systems. Emphasis was laid on parameters such as pressure, velocity, gravity flow, fixture unit calculations, and sustainable water management practices including rainwater harvesting and reuse. Practical examples and real-time site photographs from large residential and commercial projects were shared, enabling students to relate theoretical concepts with field applications.

The lecture also highlighted the multidisciplinary nature of construction projects, where coordination among civil, structural, hydraulic, fire, and services engineers is essential for successful project execution. This discussion helped students understand teamwork, professional responsibility, and ethical practices in engineering design.

An interactive question-and-answer session was conducted at the end of the lecture, during which students actively participated and clarified their doubts related to hydraulic design, site execution challenges, professional expectations, and practical problem-solving approaches. The interaction made the session lively and enriched the overall learning experience.

PO's covered: PO, PO3, PO6, PO7, PO8, PO9, v PO10 & PO12.

SDG's:

i. SDG 6 – Clean Water and Sanitation.
ii. SDG 9 – Industry, Innovation and Infrastructure.
iii. SDG 11 – Sustainable Cities and Communities.
iv. SDG 13 – Climate Action.

Feedback: