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INDUSTRIAL VISIT TO NATIONAL INSTITUTE OF ROCK MECHANICS (NIRM)

The Department of **Civil Engineering**, MVJCE, organised an **Industrial Visit** to the **National Institute of Rock Mechanics (NIRM),** Banashankari, Bengaluru, on **Friday, 10th October 2025**.

Objectives of the Event

The primary objectives of the event were:

- To gain practical insights, knowledge, and experience
- To develop innovative, site-specific solutions for rock-related challenges
- To create awareness among students on engineering techniques in Geological Investigation and its broader research areas in Seismology, Rock Testing, Fracture Mechanics, Numerical Modelling, and Instrumentation.

Industrial Visit Overview

The Department of Civil Engineering, MVJCE, organised an Industrial Visit to the National Institute of Rock Mechanics (NIRM), Outer Ring Road, Eshwar Nagar, Banashankari 2nd Stage, Bengaluru, on Friday, 10th October 2025. Faculty members Prof. Karthik S and Prof. Syed Azam accompanied the 5th and 7th-semester Civil Engineering students during the visit. The National Institute of Rock Mechanics has been an autonomous Research Institute under the Ministry of Mines, Government of India, since 1988. An MVJCE alumnus of the Civil Engineering Department, Mrs Praveena Das Jennifer, a scientist at NIRM, guided and helped the students gain knowledge during the visit.

Dr Sripad R Naik, Director (Add. Charge), Scientist V and Head Numerical Modelling Department, Dr Praveena Das Jennifer (Scientist-IV), Numerical Modelling Department, Dr Sandeep Nelliat, Scientist V and Head Engineering Geophysics Department, Dr A.K. Naithani, Scientist V and Head Engineering Geology Department, Dr Yogendra Singh, Scientist IV, Seismotectonics Department, Mr Shyam (Scientist-IV), Geotechnical Engineering, Mr Sultan Singh Meena, Scientist-III- Project Monitoring Cell, were the experts who enlightened our students about Rock Mechanics.

This Industrial Visit gave the students an outlook on various fields like Engineering, Geological Investigations, Engineering Geophysical Investigations, In-situ Geo-technical Investigations, Engineering Seismology & Seismotectonics, Rock Blasting and Excavation Engineering, Numerical Modelling and Instrumentation, Geo-mechanics and Ground Control, Material Testing & NDT, and Rock Testing & Fracture Mechanics.

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Figure 1: Dr Sripad R. Naik (Scientist-V & Head) explaining the project undertaken by NIRM.

Figure 2: Dr Shyam and Dr Yogendra Singh explaining modern tools used to assess rock quality to the students.

Figure 3: Dr Praveena Das Jennifer (Scientist-IV) explains soil investigation studies conducted for various mines and seismological data analysis.

Figure 4: Mr Shyam (Scientist-IV) explaining geotechnical methods.

Figure 5: Students learning the numerical modelling techniques applied in tunnelling.

Figure 6: Mr Sultan Singh Meena (Head – Geomechanics and Ground Control) explains geomechanics and slope stability concepts.

Figure 7: Dr Sandeep Nelliat explaining geophysics and rock mechanics to the students.

Figure 8: Dr A. K. Naithani (Scientist-V) introducing NIRM and discussing job opportunities with the students.

Outcomes and Impact

- The site visit helped students enrich their knowledge of using practical solutions to real-world problems.
- Students gained awareness of the modern tools and methodologies adopted to solve engineering problems and to serve society better.

Conclusions

The Industrial Visit to the National Institute of Rock Mechanics (NIRM) successfully provided a platform for knowledge sharing, innovation, and discussion among students and experts. The visit highlighted the importance of various fields like Engineering Geological Investigations, Engineering Geophysical Investigations, In-situ Geo-technical Investigations, Engineering Seismology & Seismotectonics, Rock Blasting and Excavation Engineering, Numerical Modelling and Instrumentation, Geo-mechanics and Ground Control, Material Testing & NDT, and Rock Testing & Fracture Mechanics. The department looks forward to organising more such visits to enrich their knowledge of using practical solutions to solve real-world problems.

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