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PRESS-RELEASE

IIT (ISM) Dhanbad Advances STEM Learning for PAP & Underprivileged Students with Hands-on Experiments and Experiential Training Methods

With a focused aim to foster scientific temper, strengthen conceptual understanding, and promote analytical thinking among underprivileged and Project Affected Person (PAP) students of BCCL areas, IIT (ISM) Dhanbad today conducted a comprehensive STEM (Science, Technology, Engineering and Mathematics) outreach and motivation programme at DPLMA High School, Nawagarh. The training emphasised innovative, hands-on learning methods—including Balloon Blow-Up, Candle Water Rising, Turmeric Indicator, Density Layering (Liquid Stack), Light Refraction and Lava Lamp experiments—designed to simplify scientific concepts through logical, digital and experimental approaches.

The programme, held under the academic leadership of Prof. Rashmi Singh, Programme Coordinator, and Prof. Niladri Das, Programme Co-Coordinator, from the Department of Management Studies and Industrial Engineering, witnessed participation of around 300 students from Classes X, XI and XII. Organised as part of a Corporate Social Responsibility (CSR) initiative in collaboration with Bharat Coking Coal Limited (BCCL), the outreach is aimed at empowering students from PAP families and other underprivileged sections by making science engaging, accessible and application-oriented.

The training adopted a structured pedagogical framework integrating visual demonstrations, logical reasoning and experiential learning. Through a series of simple yet impactful experiments—such as Balloon Blow-Up and Candle Water Rising to demonstrate air pressure, Turmeric Indicator for chemical reactions, Density Layering for liquid properties, Light Refraction for optical concepts, and Lava Lamp for fluid dynamics—students were able to connect theoretical knowledge with real-life applications.

Prof. Rashmi Singh and Prof. Niladri Das highlighted that such initiatives are instrumental in nurturing curiosity, developing problem-solving skills and encouraging scientific inquiry among students. They emphasised that sustained exposure to STEM learning would help students build a strong foundation for higher education and future careers in science and technology.

The session was attended by School Principal Prem Ranjan, faculty members and students, along with BCCL CSR representatives Surendra Bhushan and Abhijeet Mitra, who appreciated the initiative and its impact on student learning.

This programme is part of an ongoing outreach initiative jointly undertaken by IIT (ISM) Dhanbad and BCCL, under which similar STEM training sessions are being conducted across schools in the region to promote inclusive and quality education.

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