



NAAC ACCREDITED 'A++' GRADE COLLEGE

2025-2026

Name of the Event: Removal of Heavy Metal Ions from Industrial Effluents Using Low-Cost Adsorbents in Packed Bed Column

Organised by: SHAKTI Hansraj × Institution's Innovation Council (IIC), Hansraj College

Date of the Event: 22nd February 2025

Duration/Event Timing: 1 PM onwards

Venue of the Event: Online (Zoom)

Name of Coordinator(s): Dr. Hari Mohan Meena, Dr. Ambika

Name of Convener: Dr. Jnaneswari Gellanki

Name of Co-Convener: Dr. Ridhi Khurana

Addressing Industrial Pollution Through Sustainable Adsorption Technologies

SHAKTI, an initiative of HRC DISHA under the aegis of IQAC, in collaboration with the Institution's Innovation Council (IIC), Hansraj College, successfully organized the 2nd International Seminar Session on 22nd February 2025 through online mode. The session featured Dr. Srinivas Tadepalli, Assistant Professor, Department of Chemical Engineering, Imam Muhammad Bin Saud Islamic University, Riyadh, Saudi Arabia, as the resource person.

The seminar focused on advanced techniques for the removal of hazardous heavy metal ions from industrial effluents, emphasizing the use of low-cost adsorbents in packed bed columns. Dr. Tadepalli elaborated on the significance of adsorption isotherms and kinetic studies in understanding and optimizing heavy metal removal processes.

He explained how adsorption isotherms help determine the relationship between the concentration of heavy metal ions in a solution and the amount adsorbed at equilibrium. The session discussed commonly used models such as Langmuir, Freundlich, and Dubinin–Astakhov isotherms, highlighting their assumptions, applicability, and limitations in different experimental contexts. These models provide critical insights into adsorption capacity, surface interaction, and process efficiency.

The speaker further emphasized the importance of kinetic models, which explain the rate at which heavy metal ions adhere to the adsorbent surface. Factors such as contact time, temperature, and initial metal concentration were discussed as crucial parameters influencing adsorption efficiency. He highlighted that while model fitting is essential, no single model universally applies across all heavy metal systems.



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Dr. Tadepalli also sensitized students to the severe health risks posed by heavy metals such as lead, mercury, arsenic, cadmium, and chromium, stressing the need for sustainable and efficient treatment technologies. The session witnessed active participation from students, who engaged in a detailed question-and-answer segment, further enriching the academic exchange.

The seminar concluded successfully, offering valuable insights into environmentally sustainable solutions for industrial pollution control. The session aligned well with SHAKTI's objective of promoting scientific awareness, innovation, and interdisciplinary learning among students.

POSTER:



SHAKTI – AN INITIATIVE OF HRC DISHA

Under the aegis of IQAC



2ND INTERNATIONAL SEMINAR SESSION

DR. SRINIVAS TADEPALLI

Professor | Dept of Chemical Engineering
Al Imam Mohd. Bin Saud Islamic University | Riyadh- Saudi Arabia

On

REMOVAL OF HEAVY METAL IONS FROM INDUSTRIAL EFFLUENTS USING LOW COST ADSORBENTS IN PACKED BED COLUMN

Saturday, February 22, 2025 | 1:00 PM Onwards | Via Zoom
[CLICK HERE](#) to join us online via Zoom



Dr. Srinivas Tadepalli

Dr. Ambika, Chemistry Department Coordinator
Dr. Hari Mohan Meena, Chemistry Department Coordinator
Dr. Ridhi Khurana, Co-convenor Shakti
Dr. Jnaneswari Gellanki, Convenor Shakti
Dr. Himanshu, Teacher In-Charge, Department of Chemistry

Prof. Preeti Dharmarha, Convenor HRC DISHA
Dr. Alka Kacker, IQAC Director
Prof. Vijay Rani Rajpal, Vice-Principal
Prof. Rama, Principal

ATTENDANCE:

हंसराज महाविद्यालय

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HANSRAJ COLLEGE

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Total attendees: 24

1:13 Attendees (21) Cancel Search AM Aman Malik AS AMANDEEP SINGH 73 AS Anushka Shakya AM Arkaprava Mukherjee AH Aun Hussain B Bhoomika BG Bhumika Garg HA Himanshi Agrawal IT Ishu Tomar JG Jahnabi Goyary KS Khushal sharma MS Mohini Singh MC Muskan Chetry(Hansraj College)	1:14 Attendees (20) Cancel BG Bhumika Garg IT Ishu Tomar JG Jahnabi Goyary KS Khushal sharma MS Mohini Singh MC Muskan Chetry(Hansraj College) NL Narendra Lamror P Priyanka P Priyanshu RK Ravindra khoth RS Riya Singh SS Sana Sethi SC SANSKAR CHOUBEY TN Taniya Nagar
1:25 Attendees (19) Cancel Search AJ Aastha Jaiswal AS AMANDEEP SINGH 73 AS Anushka Shakya AH Aun Hussain IT Ishu Tomar JG Jahnabi Goyary KS Khushal sharma MS Mohini Singh MC Muskan Chetry(Hansraj College) NL Narendra Lamror PC Prateek Chaurasia P Priyanka RC Raj Chaurasiya - 59 RK Ravindra khoth	1:25 Attendees (20) Cancel KS Khushal sharma MS Mohini Singh MC Muskan Chetry(Hansraj College) NL Narendra Lamror PC Prateek Chaurasia P Priyanka RC Raj Chaurasiya - 59 RK Ravindra khoth SS Sana Sethi SY Santosh Yadav S Shruti S Shubham S sunita TN Taniya Nagar

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