



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

Accredited by NAAC with "A" Grade & NBA for ASE, CE, CSE, ECE, EEE, ME & IT (Under Tier - I)

An ISO 21001:2018, 14001:2015 and 50001:2018 Certified Institution

Approved by AICTE, New Delhi and Permanently Affiliated to JNTUK, Kakinada

L.B. Reddy Nagar, Mylavaram-521 230, NTR Dist., Andhra Pradesh

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FRESHMAN ENGINEERING DEPARTMENT

Web.: <https://lbrce.ac.in/fed/index.php> Email: hodfed@lbrce.ac.in Ext.: 516

Date: 28-09-2026

Colloquium Circular

This is to inform to the entire faculty that, the Colloquium is scheduled on 28th September 2026 at 12:45 PM. Hence all the faculty members should attend the colloquium without fail.

Link: <https://teams.microsoft.com/meet/492529757821573?p=j2Q1PPT1XrbQmSI2mx>

Date: 28-09-2026

Time: 12. 45 PM

Title	Presentation by
Adsorptive Removal of Methylene Blue From aqueous solution using Biomass Derived Activated carbon.	Dr. Y. Subbareddy


Colloquium Coordinator
(Dr. Syed Yusub)


Head of the Department
(Dr. T. Satynarayana)



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Faculty Colloquium Report

Date: 28-09-2026

Title of the Presentation : Adsorptive Removal of Methylene Blue From aqueous solution using Biomass Derived Activated carbon
Date : 28-09-2026
Presented By : Dr. Y. Subbareddy
Sr. Asst. Professor, Division of Chemistry, FED
Number of Faculty Attended : 25

Abstract: A green and cost-effective adsorbent, graphitic activated carbon derived from almond shells by KOH activation at 600 °C (ASAC), was developed for methylene blue (MB) removal from wastewater. ASAC exhibited a mesoporous structure with a high surface area of 510.47 m²/g and a pore diameter of 2.93 nm. It achieved 99.9% MB removal at a dosage of 0.06 g within 120 min, with a maximum Langmuir adsorption capacity of 230.73 mg/g. The adsorption followed pseudo-second-order kinetics and was spontaneous and endothermic. ASAC also showed good regeneration over five cycles. Hydrogen bonding, π - π , and electrostatic interactions contributed to MB adsorption, demonstrating ASAC as a sustainable and reusable adsorbent for wastewater treatment.

Keywords: Almond shell; Methylene blue; Activated carbon; Adsorption kinetics; Mesoporous carbon; Wastewater treatment.

- Developed a green and cost-effective graphitic activated carbon (ASAC) from almond shell biomass.
- Achieved 99.9% methylene blue removal using a low adsorbent dosage of 0.06 g.
- Obtained a high adsorption capacity of 230.73 mg/g with rapid equilibrium within 120 min.
- Established effective adsorption mechanisms involving hydrogen bonding, π - π interactions, and electrostatic interactions.
- Demonstrated excellent reusability, with high adsorption efficiency maintained over five regeneration cycles, highlighting its potential for sustainable wastewater treatment.

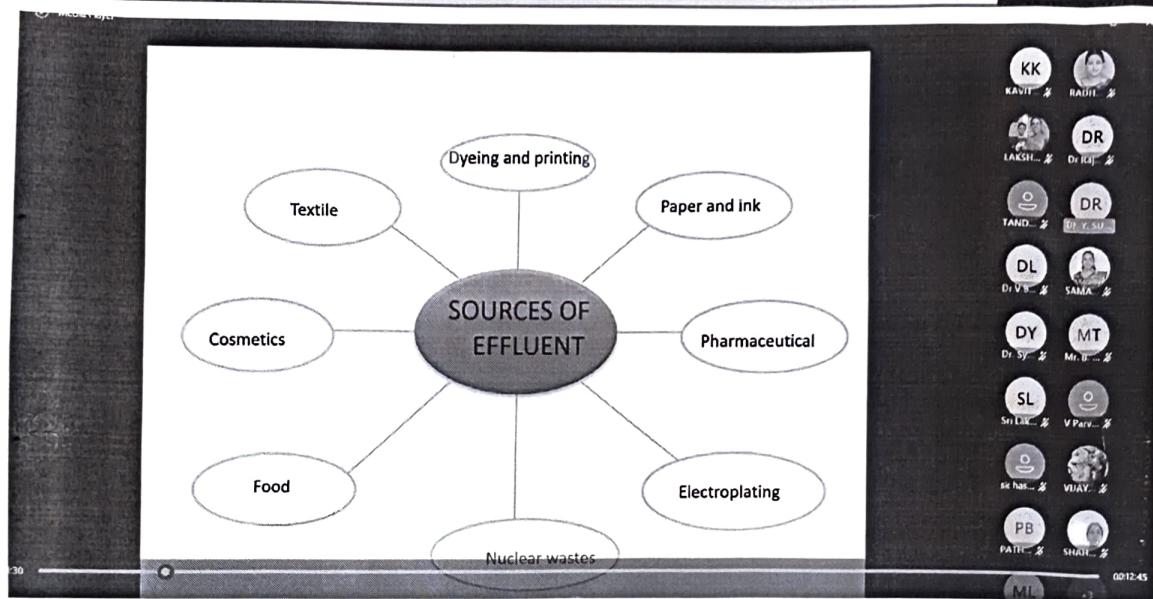
Link to the video recording:

<https://drive.google.com/file/d/1EignKikYBOAWZADMnMbeX48upYAU8uG/view?usp=sharing>

Presentation photos while taken at the time of online presentation

Adsorptive Removal of Methylene Blue from Aqueous Solution Using Biomass-Derived Activated Carbon

Dr. Y. Subbareddy
Sr. Asst. Professor of Chemistry
LBRCE



Dr. Syed Yusub
Colloquium Coordinator
(Dr. Syed Yusub)

Dr. T. Satynarayana
28/9/26
Head of the Department
(Dr. T. Satynarayana)