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Departmental Seminar

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Seminar Title	: Comparative Analysis of Control methods for Enhancing the performance of the Bidirectional DC-DC Buck-Boost Converter
Speaker	: Riju Nandi (523ee1010)
Supervisor	: Prof. Arnab Ghosh
Venue	: Seminar Room (EE-205)
Date and Time	: 22 Jul 2025 (4:30 PM)
Abstract	: This paper compares seven different control methods on DC-DC Bidirectional Buck-Boost Converter (BDC). Several control methods, like PID, 1-DOF PID, 2-DOF PID, 3-DOF PID, Lag-lead, Lead-lead, and Lead-lag, are used to control the BDC. The results show the capability of control methods to improve the functioning of the converters mentioned above. The converter's performance is achieved using various control strategies applied to fluctuations in supply voltage and varying load conditions. Lead-lead control is prominent among the tested algorithms, offering rapid response, minimal overshoot, and outstanding steady-state performance.