Expert Session by Alumni

School/Department: SoET Electrical Engineering Department

Name of resource person:	**Mr. Anas Khan**
Designation:	**Alumni 2024**
Date of expert lecture:	**25/2/2025**
Title of Lecture:	**Frequency Domain Compensation Technics**
Organised by:	**AIKTC, New Panvel**
Event Co-ordinator:	**Prof. Pritika Patil**
Target audience:	**TE Students**
Number of Beneficiaries:	**20 Students**

DETAILS OF EXPERT LECTURE:

An expert talk on "Frequency Domain Compensation Techniques" was delivered by esteemed alumnus Anas Khan on 25 February 2025. The session was organized by Electrical Engineering department and attended by students to understanding advanced control system methodologies.

Anas Khan, provided an in-depth discussion on the significance of frequency domain analysis in designing stable and efficient control systems. He elaborated on key compensation techniques such as lead, lag, and lead-lag compensation, emphasizing their role in improving system performance by modifying gain and phase margins. The talk highlighted how these techniques enhance system stability and transient response while minimizing steady-state errors.

A dedicated Q&A session allowed participants to engage with the speaker, discussing real-world challenges and the latest advancements in control system design. Anas Khan encouraged students to explore research opportunities in frequency domain analysis and shared insights from his professional experience.

The session concluded with a vote of thanks, acknowledging Anas Khan's valuable contribution and inspiring guidance. The talk was highly informative and provided a strong foundation for students in advanced control techniques.

Outcome of Expert Lecture:

- Students gained a deeper understanding of frequency domain compensation techniques and their practical applications.
- Enhancing their knowledge in control system stability and performance optimization.

Key Takeaways

- Lead, lag, and lead-lag compensators help modify gain and phase margins.
- Practical applications include robotics, power systems, and signal processing.

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