

## **Report on Expert Lecture**

An expert lecture on **"Piping & Process Plant Engineering: From Concept to Commissioning"** was organised by the Chemical Engineering Department at L.D. College of Engineering, Ahmedabad. The event was coordinated by Dr. Shital Amin, Dr. Ashish Baldaniya, and Dr. Ronak Patel. Held on August 6, 2025, the session was specifically tailored for the 7th-semester students of the Chemical Engineering Department, providing them with invaluable insights into the multifaceted world of process plant engineering.

### **About the Expert**

The lecture was delivered by Mr. Nitin G. Nageshwar, a seasoned professional with over 35 years of multi-disciplinary experience. Mr. Nageshwar is the Director at YoKu Filters Pvt. Ltd. and CEO of YoKu Consultant. His illustrious career spans piping engineering, process equipment design, project management, and the software industry.

He holds a B.E. in Production Engineering, an M.Tech in Aerospace Engineering from IIT Madras, and is a certified Piping Engineer from IIT Bombay. His extensive experience includes working with international standards like ASME and British Standards, and he has held senior positions at prominent companies such as Rolta Limited, Gulf Business Machines (IBM) in Dubai, and Oracle India. His profound functional experience covers a wide spectrum of process equipment, including filtration systems, scrubbers, heat exchangers, and air pollution control systems.

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### **Lecture Overview and Key Topics**

The lecture was designed to bridge the gap between academic theory and real-world industry practices. Mr. Nageshwar provided a comprehensive overview of the entire lifecycle of a process plant, from the initial concept to the final commissioning and maintenance phases.

#### **Core Areas Covered:**

- **Fundamentals of Design:** The session kicked off with the basics of process design, emphasizing Techno-Commercial feasibility, and delving into critical documents like Block Flow Diagrams (BFD), Process Flow Diagrams (PFD), and Piping & Instrumentation Diagrams (P&ID).

- **Key Equipment and Components:** A significant portion of the lecture was dedicated to essential components in any process plant. This included detailed discussions on:
  - **Valves, Control Valves, and Pumps:** Their types, functionality, and selection criteria were discussed, including sample pressure drop calculations.
  - **Heat Exchangers:** The principles of heat exchange and their design were covered.
  - **Piping Elements:** An in-depth look at materials, specifications, and the importance of adhering to codes and standards like ASME and BIS was provided.
- **Engineering and Construction Phases:** The lecture meticulously walked through the various stages of a project, including the mechanical design phase, construction, erection, commissioning, and finally, the operation and maintenance phase. Topics like pressure vessel calculations, plant layout, and safety protocols such as HAZOP were also covered.
- **Modern Tools and Advanced Topics:** Students were introduced to the software tools used in the industry for design and analysis. The lecture also touched upon specialized areas like cryogenics, flare stacks, and heat tracing.

## Relevance and Career Insights

This expert session was highly relevant for the aspiring chemical engineers in attendance. It provided a clear picture of how theoretical knowledge is applied in actual industrial settings. Mr. Nageshwar shared practical experiences that helped students understand the intricacies and challenges of working in the field.

A key takeaway for the students was the detailed discussion on

**career paths and job opportunities.** The lecture highlighted the vast scope for chemical engineers in diverse sectors, including:

- Engineering, Procurement, and Construction (EPC) companies.
- Oil & Gas, Refineries, and Petrochemical plants.
- Pharmaceuticals, Fertilizers, and Food industries.
- Power, Steel, Cement, and Paper industries.

By explaining the skills required to become a proficient piping and process plant engineer, the

lecture equipped students with the knowledge to better prepare for job opportunities. The brief on international codes, which are often difficult for students to access, was particularly beneficial.

#### Glimpses of Expert Lecture





# PIPING & PROCESS PLANT ENGINEERING: FROM CONCEPT TO COMMISSIONING



SPEAKER :

**NITIN G NAGESHWAR**

**Director- YoKu Filters**

**Ex-Rolta | IIT Alumnus**

## TOPICS TO BE COVERED:

- 1 Piping Design, BFD/PFD/P&ID
- 2 VALVES, PUMPS, HEAT EXCHANGERS
- 3 Career paths in EPC, Oil & Gas, Pharma, etc.
- 4 Codes (ASME, BIS), Software Tools
- 5 CONSTRUCTION, COMMISSIONING & MAINTENANCE



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