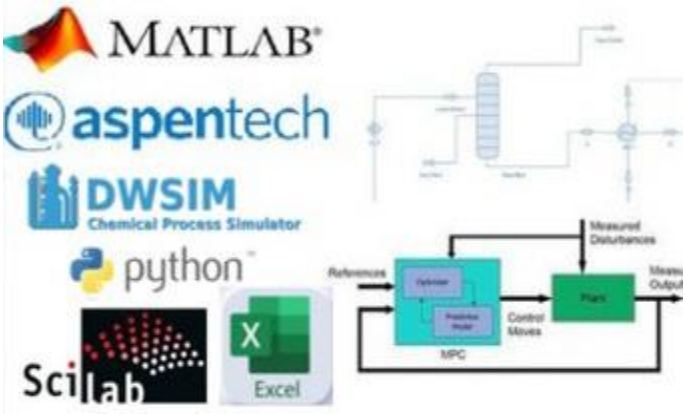
# Workshop on Computational approaches for Engineering 2025




*2 Days workshop*

*on*

*"Computational Approaches for Engineering"*

*(3-4 September , 2025)*

*Organized By*

*IIChE Student Chapter LDCE*

*Chemical Engineering Department*

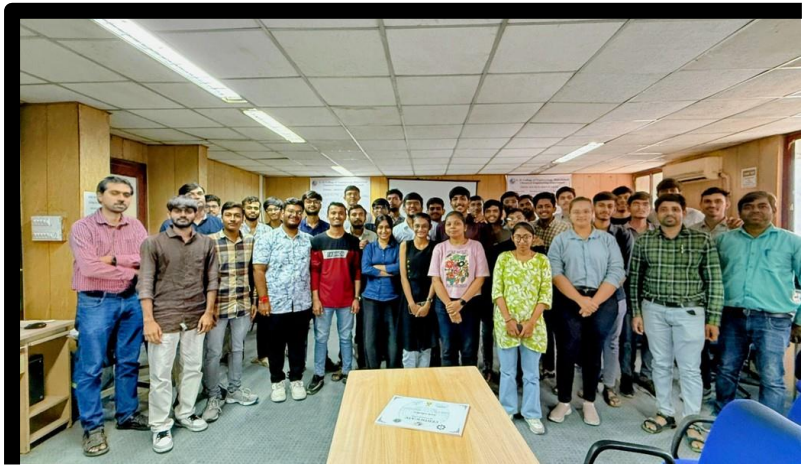
*(NBA Accreditated),*

*L. D. College of Engineering, Ahmedabad*

IIChE Student Chapter Chemical Engineering Department – LDCE had organised a workshop "Computational Approaches for Engineering" for chemical engineering students of LDCE during 3-4 September 2025. This workshop was organized focusing on the use of modern computational tools (four computational tools viz: DWSIM, MATLAB, Excel and Python) widely applied in chemical engineering and allied fields. The objective of the workshop was to bridge the gap between theory and practice by enabling participants to simulate, analyze, and optimize engineering processes using digital platforms.

The workshop covered a range of essential topics, including:

- Introduction to DWSIM for process simulation.
- Material and Energy Balance simulations to build strong fundamentals.
- Design of Distillation Columns and Heat Exchangers, addressing core separation and thermal processes.
- Reactor and Kinetics Modeling to understand chemical reaction systems.
- Recycle and Convergence in Process Flowsheets for handling complex process simulations.
- Python and AI in Chemical Engineering and Beyond, highlighting the role of modern programming and artificial intelligence in solving engineering problems.



Workshop is combined theoretical lectures, live demonstrations, and hands- on problem-solving exercises, allowing participants to gain not only software familiarity but also confidence in applying these tools to real-world engineering scenarios.

By the end of the program, participants were equipped with a multi-tool approach for tackling industrial and academic challenges, reinforcing the integration of simulation, programming, and data-driven decision-making in modern engineering practice.

The IIChE Student Chapter continues to motivate students to adopt digital technologies, encouraging lifelong learning and adaptability as computation becomes integral to all aspects of chemical engineering.