



Two-day Refresher Course on

CHEMICAL ENGINEERING FOR PLANT PERSONNEL



June 9-10, 2017 at Rainbow Hall, Grand Hotel, Ballard Estate, Mumbai – 400 001

PROGRAM

DAY ONE : FRIDAY, JUNE 9, 2017

09.00 a.m. - 09.30 a.m.	REGISTRATION
INAUGURAL SESSION	
09.30 a.m. - 10.00 a.m.	<p><i>Welcome by:</i> Mr. H. S. Karangle, Director General, ICC</p> <p><i>Keynote Address by:</i> Mr. S. R. Lohokare, Chairman, Technology & Energy Expert Committee, ICC</p> <p><i>Vote of Thanks by:</i> Mr. O. P. Goyal, Member, Technology & Energy Expert Committee, ICC</p>
10.00 a.m. - 10.30 a.m.	TEA BREAK
10.30 a.m. - 12.00 noon	<p>Material & Energy Balance Computations by Professor S. S. Bhagwat, ICT, Mumbai</p> <ul style="list-style-type: none"> • Fundamentals of Material Balance • Material balances with and without reactions: Computations • Energy Balances: Fundamentals and Computations • Combined Material and Energy Balances • Examples and a Case Study
12.00 noon - 01.00 p.m.	<p>Fluid Flow Fundamentals by Dr. D. D. Kale, Consultant</p> <ul style="list-style-type: none"> • Basic Laws related to Motion of Fluids • Compressible Fluids • Introduction to Two Phase Flow • Complex (Non-Newtonian) Fluids • Examples
01.00 p.m. - 02.00 p.m.	LUNCH BREAK
02.00 p.m. - 03.30 p.m.	<p>Plant Piping ΔP and Equipment Power Consumption Calculations by Mr. O. P. Goyal</p> <ul style="list-style-type: none"> • Pressure Drop calculations in liquid, gas and steam piping • Centrifugal Pump Characteristics, Affinity Laws and kW Calculations • Centrifugal and Reciprocating Compressors kW Calculations • Guidelines and Examples
03.30 p.m. - 04.00 p.m.	TEA BREAK
04.00 p.m. - 05.00 p.m.	<p>Heat Transfer by Mr. Arvind Kaushik, L&T Hydrocarbon Engineering Ltd.</p> <ul style="list-style-type: none"> • Types of Heat Exchangers • Design aspects of Shell & Tube Heat Exchangers • Design Aspects of Condensers and Thermosiphon Reboilers • Design Examples
05.00 p.m. - 05.30 p.m.	Quiz Test: by Mr. O. P. Goyal

DAY TWO : SATURDAY, JUNE 10, 2017

09.30 a.m. - 10.30 a.m.	Reaction Engineering by Dr. P. R. Gogate, ICT, Mumbai <ul style="list-style-type: none">• Fundamentals of Various Types of Reactions and Reactors• Types of Multiphase Reactors and Design Considerations• Examples
10.30 a.m. - 11.00 a.m.	TEA BREAK
11.00 a.m. - 12.00 noon	Distillation and Extraction by Prof A. B. Pandit and Dr. P. R. Gogate, ICT, Mumbai <ul style="list-style-type: none">• Fundamentals of Mass Transfer Operations• Design Considerations for Distillation• Design Considerations for Extraction• Examples
12.00 noon 01.00 p.m.	Crystallization, Filtration and Drying by Prof A.B. Pandit and Prof A.W.Patwardhan <ul style="list-style-type: none">• Fundamentals of Crystallization, Filtration and Drying• Design Considerations of Crystallization, Filtration and Drying Equipment• Examples
01.00 p.m.- 02.00 p.m.	LUNCH BREAK
02.00 p.m. - 03.00 p.m.	Process Plant Piping by Mr. Mrinmoy Ghosh Choudhary, Reliance Engineering Group <ul style="list-style-type: none">• Overview of Process Plant Piping• Design, Standards used and practical Considerations• Approach for Solving Problems• Examples and Case Studies
03.00 p.m.- 03.30 p.m.	TEA BREAK
03.30 p.m. - 04.30 p.m.	Process Utilities by Dr. S. Ganesan <ul style="list-style-type: none">• Overview of Utilities• Practical Considerations• Approach to Solving Operational Problems• Examples
04.30 p.m. - 05.00 p.m.	Interactive Quiz by Mr. O. P. Goyal
05.00 p.m. - 05.30 p.m.	SUMMING UP & PRESENTATION OF CERTIFICATES