



# CHEMICAL REACTION ENGINEERING

CHEMICAL ENGINEERING

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# MASS TRANSFER

## CHEMICAL ENGINEERING

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# MECHANICAL OPERATIONS

## CHEMICAL ENGINEERING

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# CLASSICAL THERMODYNAMICS

## CHEMICAL ENGINEERING

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## Chapter 09 ▶ Mixture of Gasses

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Lecture 01	Mixture of Gasses	0:15:23
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## Chapter 10 ▶ T.ds Relations

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Lecture 01	Theorems	0:10:28
Lecture 02	Maxwell Equations	0:21:20
Lecture 03	T.ds Equations	0:16:31
Lecture 04	Coff. of Vol Expansion & Isothermal Compressibility	0:22:24
Lecture 05	Joule–Thomson Experiment	0:20:11
Lecture 06	Workbook Question 1–3	0:07:41

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# SOLUTION THERMODYNAMICS

## CHEMICAL ENGINEERING



## Lecture Information

### Unit 01 ▶

Lecture 01	Introduction Of Solution Thermodynamics	0:14:10
Lecture 02	Workbook Question 1.1	0:05:31
Lecture 03	Workbook Question 1.2	0:08:07
Lecture 04	Partial Molar Properties	0:11:40
Lecture 05	Workbook Question 1.3	0:07:42
Lecture 06	Workbook Question 1.4	0:06:06
Lecture 07	Workbook Question 1.5	0:07:42
Lecture 08	Summarization Of Partial Molar Properties	0:22:59

### Unit 02 ▶

Lecture 01	Ideal Gas Mixture Model	0:27:46
Lecture 02	Properties Change Of Mixing	0:24:23
Lecture 03	Summarization Of Ideal Gas Mixture Model	0:21:36
Lecture 04	Workbook Question 2.1	0:08:32
Lecture 05	Workbook Question 2.2	0:09:31
Lecture 06	Workbook Question 2.3	0:06:22
Lecture 07	Workbook Question 2.4	0:06:40

## Unit 03 ▶

Lecture 01	Excess Property And Residual Properties	0:17:10
Lecture 02	Workbook Question 3.1	0:10:04
Lecture 03	Fugacity And Fugacity Coefficient	0:26:59
Lecture 04	Workbook Question 3.2	0:09:43
Lecture 05	Workbook Question 3.3	0:13:45
Lecture 06	Workbook Question 3.4	0:06:55
Lecture 07	Fugacity Of Compressed Liquid	0:14:09
Lecture 08	Workbook Question 3.5	0:08:03
Lecture 09	Workbook Question 3.6	0:10:50
Lecture 10	Workbook Question 3.7	0:12:10
Lecture 11	Activity And Activity Coefficient	0:13:18
Lecture 12	Workbook Question 3.8	0:11:50
Lecture 13	Workbook Question 3.9	0:05:09
Lecture 14	Modified Raoult's Law	0:23:58
Lecture 15	Workbook Question 3.10	0:15:01
Lecture 16	Workbook Question 3.11	0:11:06
Lecture 17	Workbook Question 3.12	0:16:09
Lecture 18	Workbook Question 3.13	0:10:29

## Unit 04 ▶

Lecture 01	Gibbs Free Energy As A Generating Function	0:12:25
Lecture 02	Workbook Question 4.1	0:09:11
Lecture 03	Workbook Question 4.2	0:05:38
Lecture 04	Vapor Liquid Equilibrium & Lewis–Randall Rule	0:11:10
Lecture 05	Workbook Question 4.3	0:08:56
Lecture 06	Workbook Question 4.4	0:16:59
Lecture 07	Chemical Reaction Equilibrium	0:34:25
Lecture 08	Workbook Question 4.5	0:14:16
Lecture 09	Workbook Question 4.6	0:07:52
Lecture 10	Workbook Question 4.7	0:21:13
Lecture 11	Workbook Question 4.8	0:19:03
Lecture 12	Workbook Question 4.9	0:08:32
Lecture 13	Summarization Of Solution Thermodynamics	0:32:08



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# GENERAL APTITUDE

## CHEMICAL ENGINEERING

### Lecture Information

#### Chapter 01 ► Number System

Lecture 01	Number of Zeros at the end	00:45:09
Lecture 02	Unit Digit Value	00:47:50
Lecture 03	Last Two Digits	00:30:17
Lecture 04	Concept of Remainders	00:40:09
Lecture 05	Factorisation	00:30:07
Lecture 06	Divisibility	00:43:07
Lecture 07	Important Note	00:23:09

#### Chapter 02 ► PnC & Probability

Lecture 01	Addition, Multiplication & Filling	01:16:42
Lecture 02	Basics of PnC	00:24:20
Lecture 03	Letters–Word Arrangement	00:32:51
Lecture 04	Team Formation	00:25:59
Lecture 05	Question Paperwala Question	00:13:37
Lecture 06	Number Sum	00:12:14
Lecture 07	Linear and Circular Arrangements	00:10:44
Lecture 08	Straight Lines, Triangles, Chess Board, Handshake & Gift...	00:28:09

Lecture 09	Dictionary Word	00:11:27
Lecture 10	Important Concepts PnC	00:21:53
Lecture 11	Concept Builder 1 (Probability)	02:01:46
Lecture 12	Concept Builder 2 (Probability)	01:17:15
Lecture 13	Challenge Question (Probability )	00:51:46

## Chapter 03 ▶ TSD & Work and Time

Lecture 01	Average Speed	00:27:29
Lecture 02	Time Difference	00:42:29
Lecture 03	Relative Speed	00:52:49
Lecture 04	Challenge Questions	01:05:54
Lecture 05	Boats & Streams	00:18:56
Lecture 06	Linear Races	00:21:37
Lecture 07	Challenge Questions	00:12:01
Lecture 08	Circular Races & HCF–LCM	01:35:08
Lecture 09	Work & Time	00:14:55
Lecture 10	Understanding Workdone	01:16:39
Lecture 11	Distribution of Wages	00:09:14
Lecture 12	Pipes & Cisterns	00:32:16
Lecture 13	W=DMTE	00:38:58

## Chapter 04 ▶ Percentage & Its Applications

Lecture 01	Percentage : DI (Pie Chart)	01:38:34
Lecture 02	Percentage : DI (Table & Line Graph)	00:49:11
Lecture 03	Percentage Basic	01:07:11
Lecture 04	Profit & Loss	00:33:26
Lecture 05	Mixture Alligation	01:20:55
Lecture 06	SICI & Some more Graphs	01:38:16

## Chapter 05 ▶ Miscellaneous

Lecture 01	Logarithms	01:20:25
Lecture 02	Odd One Out, Coding, Decoding, Missing Letter & Blood ...	00:31:29
Lecture 03	Simplification, Some More Graphs & Reasoning	03:33:52

## Chapter 06 ▶ Verbal

Lecture 01	Logical Connective	01:05:55
Lecture 02	Syllogism	01:33:15
Lecture 03	Verbal Reasoning (Critical Reasoning)	01:43:06

## Chapter 07 ► Verbal Ability and Verbal Grammar (VA/VG)

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Lecture 01	Verbal Ability and Verbal Grammar (VA/VG)	02:22:20
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## Chapter 08 ► Vocabulary Development (Rapid Fire)

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Lecture 01	Rapid Fire (1)	00:27:28
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Lecture 02	Rapid Fire (2)	00:14:19
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Lecture 03	Rapid Fire (3)	00:11:39
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# ENGINEERING MATHEMATICS

## CHEMICAL ENGINEERING

### Lecture Information

Lecture 00      How to use PD-GD Course for Engineering Mathematics ?      **00:28:44**

#### Chapter 01 ► Linear Algebra

Lecture 01      Basics of Linear Algebra      **00:48:39**

Lecture 02      Basic of Operation of Matrix      **01:21:13**

Lecture 03      Types of Square Matrix      **00:49:25**

Lecture 04      Eigen Value & Caley Hamilton Theorem      **01:02:23**

Lecture 05      Eigen Vector & Concept of Diagonalization      **01:14:16**

Lecture 06      Rank of Matrix      **01:11:06**

Lecture 07      Solution of Linear Equation      **00:36:36**

Lecture 08      "Basis of Vectors      **00:25:23**

#### Chapter 02 ► Differential Equation

Lecture 01      Basic of Differential Equation      **00:27:01**

Lecture 02      Solution of Ordinary Differential Equation      **00:13:18**

Lecture 03      Solution of Homogeneous Differential Equation      **00:37:40**

Lecture 04      Solution of Non-Homogeneous Differential Equation      **00:56:46**

Lecture 05      Cauchy Linear Differential Equation      **00:17:54**

Lecture 06      First Order First Degree Differential Equation      **00:44:55**

Lecture 07	Partial Differential Equation	00:40:33
Lecture 08	Basics of Partial Differential Equation	00:19:20
Lecture 09	"Solutions of Partial Differential Equations"	00:43:03
Lecture 10	First Order First Degree Differential Equation (Non-exact)	00:46:11

## Chapter 03 ▶ Integral Calculus

Lecture 01	Basic of Integral Calculus	00:37:55
Lecture 02	Special Function (Gamma & Beta)	00:53:06
Lecture 03	Change of Order (Double Integral)	00:50:14
Lecture 04	Application of Integral	01:11:10
Lecture 05	Zero level concept of integration	00:51:50
Lecture 06	Basic of proper and improper integrals	00:28:29

## Chapter 04 ▶ Vector Calculus

Lecture 01	Basic of Vector	00:46:16
Lecture 02	Del Operator	00:08:03
Lecture 03	Gradient, Divergence, Curl & Directional Derivative	00:49:13
Lecture 04	Problem Based on G, D & C	00:37:04
Lecture 05	Vector Integral Calculus	00:13:07
Lecture 06	Stoke & Gauss Theorem	00:24:54
Lecture 07	Problem Based on Stoke & Gauss Theorem	00:49:00
Lecture 08	Miscellaneous	00:19:02

## Chapter 05 ▶ Maxima Minima

Lecture 01	Concept of Maxima & Minima (One Independent Variable)	00:18:33
Lecture 02	Analysis of Maxima & Minima	00:17:18
Lecture 03	Questions on Maxima & Minima	00:14:01
Lecture 04	Concept of Maxima & Minima (Two Independent Variable)	00:07:53
Lecture 05	Miscellaneous Questions on Maxima & Minima	00:30:06

## Chapter 06 ▶ Mean Value Theorem

Lecture 01	Basic of Functions & Limits	00:15:12
Lecture 02	Continuity & Differentiability	00:54:21
Lecture 03	Rolle & Lagrange's MVT	00:28:30

## Chapter 07 ▶ Complex Variable

Lecture 01	Basic of Complex Variable	00:29:32
Lecture 02	Concept of Analytic Function	00:53:35
Lecture 03	Complex Integral	00:12:47
Lecture 04	Residue Theorem & Cauchy Theorem	01:07:02

Lecture 05	Complex Series Expansion	00:33:02
Lecture 06	Basic of Zeros & Singularities	00:19:04

## Chapter 08 ▶ Limits & Series Expansion

Lecture 01	Limits	00:33:36
Lecture 02	Series Expansion	00:40:43
Lecture 03	Fourier Series	00:32:21
Lecture 04	Laplace Transform	00:48:00

## Chapter 09 ▶ Probability

Lecture 01	Sample Space	00:35:33
Lecture 02	Events	00:23:42
Lecture 03	Basic Of Probability	00:45:07
Lecture 04	Probability of Distribution (Binomial)	00:30:27
Lecture 05	Poison Distribution	00:13:27
Lecture 06	Normal Distribution	00:32:39
Lecture 07	Random Variable	01:29:04
Lecture 08	Central Tendency (Mean, median, mode)	00:55:22
Lecture 09	Standard deviation & Coefficient of Variance	00:06:14
Lecture 10	Questions Based on Central Tendency	00:34:02
Lecture 11	Basics of Corelation & Regression Analysis	00:40:45
Lecture 12	Some more on probability(Bayes theorem) (Part-1)	00:24:58
Lecture 13	Some more on probability (Part-2)	00:20:31

## Chapter 10 ▶ Numerical Methods

Lecture 01	Methods to solve Non-Linear Algebraic Equation	00:54:03
Lecture 02	Question of Non-Linear Algebraic Equation	00:30:55
Lecture 03	Methods to Solve Differential Equation	00:12:25
Lecture 04	Question of Differential Equation	00:30:30
Lecture 05	Method to Solve Numerical Integral	00:15:05
Lecture 06	Questions of Numerical Integrals	00:24:59

## Preparation Strategy ▶

Lecture 01	Prepare GATE Maths Strategically ??? By : Gurupal Sir	00:48:00
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# CHEMICAL ENGINEERING

Subjects to be provided in Slot 2 ..

1. Fluid Mechanics
2. Process Dynamics & Control
3. Chemical Technology
4. Heat Transfer Operations
5. Plant Design & Economics
6. Process Calculation

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