



**GATE 2020**  
**Mechanical Engineering**  
**(Volume - II)**

**TOPIC WISE GATE SOLUTIONS**  
**1987 - 2019**



**GATE ACADEMY PUBLICATIONS®**

*...The Mentor for Engineers*

## CONTENTS

### S. No. Topics

#### 1. Engineering Mechanics

1. FBD & Equilibrium of Forces
2. Plane Trusses
3. Friction
4. Kinematics of Particles & Rigid Body
5. Kinetics of Particles & Rigid Body
6. Impulse, Momentum, Collision & Work Energy

#### 2. Theory of Machines

1. Displacement, Velocity & Acceleration
2. Planer Mechanisms
3. Cams
4. Dynamic Analysis of Slider-Crank
5. Gear & Gear Trains
6. Flywheel
7. Vibration
8. Balancing
9. Gyroscope

#### 3. Industrial Engineering

1. Inventory Control
2. Linear Programming Problem
3. Transportation & Assignment Model
4. CPM & PERT
5. Queuing Theory
6. Forecasting
7. Break Even Analysis
8. Sequencing

9. Line Balancing or Assembly Line
10. MRP
11. Work Study
12. Miscellaneous

#### **4. Production Engineering**

1. Casting
2. Welding
3. Machining
4. Forming
5. Sheet Metal Working
6. Metrology & Inspection
7. Computer Integrated Manufacturing
8. Unconventional Machining
9. Material Science

#### **5. Engineering Mathematics**

1. Linear Algebra
2. Differential Equation
3. Integral & Differential Calculus
4. Vector Calculus
5. Maxima & Minima
6. Mean Value Theorem
7. Complex Variables
8. Limit and Series Expansion
9. Probability & Statistics
10. Numerical Methods
11. Transform Theory