

# Syllabus for Mechanical Engineering Master's

## **Section 1: Subject Knowledge**

Please Note: A Total of 40 Questions will be asked, combining the following topics, with the difficulty level commensurate to a Master's Candidate.

### Unit I: Engineering Mathematics

Linear Algebra, Calculus, Differential equations, Complex variables, Probability and Statistics, Numerical Methods.

### Unit II: Applied Mechanics and Design

Engineering Mechanics, Mechanics of Materials, Theory of Machines, Vibrations, Machine Design.

### Unit III: Fluid Mechanics and Thermal Sciences

Fluid Mechanics, Heat-Transfer, Thermodynamics, Applications: Power Engineering, I.C. Engines, Refrigeration and air-conditioning, Turbomachinery.

### Unit IV: Materials, Manufacturing and Industrial Engineering

Engineering Materials, Casting, Forming, and Joining Processes, Machining and Machine Tool Operations, Metrology and Inspection, Computer Integrated Manufacturing, Production Planning and Control, Inventory Control, Operations Research.

## **Section 2: Fundamental Skills**

Please Note: A Total of 24 Questions will be asked, combining the following topics, with the difficulty level commensurate to a Master's Candidate.

### Unit I: Data Analysis

### Unit II: Math and Statistics

### Unit III: Reasoning and Aptitude

### Unit IV: Reading and Writing

## **Section 3: Specific Skill Proficiency**

This section has multiple skills. You can select the ones you are proficient in from the enrollment form. You can select a maximum of 4 skills.