

**Last date for registration 10 September 2026**

## INTRODUCTION

This course is structured with an introduction to elements of Gear box and more focused towards Industrial applications.

Introduction to types of gears, gear profiles, gear standards being a part of the curriculum.

Introduction to design input for gearbox design, conceptualization gear layout, sizing of gears and shafts, calculations on gears, bearing selection, seals, keys and standard parts used in gear box.

Keeping this in view, IMTMA is organising a training program on **Design of Gears & Gears Boxes**.

## FOCUS AREAS

### DAY-1

- Gear Applications & Types
- Gear Nomenclature
- Gear Tooth Forms
- Spline Nomenclature
- Gear Quality Classification
- Basics of Gear & Gear box Design

### DAY-2

- Gear Manufacturing Methods (Hobbing/Shaping/Broaching/Shaving/Grinding/Honing)
- Material & Heat Treatment of Gears (Current trends)
- Gear Cutting Tools (Hobs/Shaper Cutters/Shaving Cutters/Broaches/Grinding Worms)
- Fixtures & Work holding for Gear manufacturing
- Gear Cutting & Finishing Machines
- New Generation Gear Cutting (Skiving/Dry Hobbing/Rotary Broaching)
- Gear Quality & Inspection (Macro & Micro Geometry, Errors, Gear Graphs)
- Composite & Cumulative Errors, Pitch Errors, Gear Tooth thickness, Crowning, Reliefs

## KEY TAKE AWAYS

- Complete knowledge on gearbox design
- Selection of motor for gear box
- Gears and gear design
- Shaft design and sizing
- Gear box design and sizing
- Manufacturing drawings of gears and shafts
- Systematic design approach

## PARTICIPATION FEE

**Rs. 4999/-**  
+18% GST

**IMTMA Members/ Micro Companies/ Individuals/  
Educational Institutions / Students/ IMTMA Non  
Members/ Others**

**USD 200/-**  
**Overseas Participants**

**Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company**

## PARTICIPANT PROFILE

This programme will benefit Gear design engineers; management involved with the design and manufacture of gearing type components; metallurgists and materials engineers; laboratory technicians; quality assurance technicians; furnace design engineers; and equipment suppliers

## FACULTY

This program will be conducted by **Mr. Sengupta**.

**Mr. Sengupta** is a distinguished Independent Engineering and Management Consultant and Corporate Trainer with over 30 years of experience in the manufacturing sector, particularly serving MSMEs across India. He specializes in Business Strategy, Lean Manufacturing, TPM, Operational Excellence, and Project Management.

He has held senior roles at notable companies such as Tata Motors and Raymond Limited. He holds a Mechanical Engineering degree from BITS and a PGDBM, along with certifications in Lean Six Sigma and Lean Manufacturing by the Ministry of MSME, GOI. He is also a seasoned trainer and visiting faculty at esteemed institutions.

### For Registration Contact

**Nagraj Hamilpure**  
**Programme Coordinator**  
9881616902  
[n.hamilpure@imtma.in](mailto:n.hamilpure@imtma.in)  
**Back End Operations**  
9742626488  
[enquiry@imtmablr.com](mailto:enquiry@imtmablr.com)

### Contact Address

**INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION**  
12/5, D-1 Block, MIDC, Chinchwad,  
Pune-411019  
Board Line : +91 7066030531 / 532



imtmatraining.67038796@hdfcbank

**REGISTRATION** : Prior registration for participation is necessary. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.

**Important Information** : Participation fee includes, course material, working lunch and tea / coffee. Interested companies are requested to register online by clicking on 'REGISTER' button and by filling up the nomination authority and participant's details in specified form.