Manufacturing Technology Training
An IMTMA initiative

Design of Gears & Gears Boxes
Date : 21 to 23 July, 2025
Venue : IMTMA Technology Centre, Pune

INTRODUCTION

This course is designed to deepen your knowledge of gear technology. Covering everything from gear applications and types to advanced manufacturing methods and inspection techniques, this workshop addresses all key aspects. Enhance your skills and stay ahead in the dynamic field of gear technology.

In line with this, IMTMA is organizing a training 3 days program on the **Design & Manufacturing of Gears & Gearboxes.**

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

DAY-3

- Backlash and Gear Noise
- Inspection of Bevel gears & pinions Sintered and Plastic Gears
- Gear manufacturing by Forming processes
- Gear Standards (AGMA/DIN/JIS)
- Re-sharpening of Hobs/Shaping Cutters/Shaving Cutters/Broaches
- Gear Software & simulation

KEY TAKE AWAYS

- Working knowledge on Gearbox design
- Selection of gear boxes for different applications
- Design of Gears Shafts
- Understanding Manufacturing drawings of Gears and Shafts
- Systematic design approach

PARTICIPATION FEE

Rs. 13750/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 550/-
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 program 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 & practicing engineers from Gear manufacturing industry.

FACULTY

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

Mr.Sengupta is a distinguished 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, Raymond Group, Hi-Tech Gears, Varroc Engineering. 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.

Mr. Sengupta has a wide experience in Gear design and manufacturing field and has also been associated with Daimler AG Germany for Gear development projects.

For Registration Contact

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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.