Manufacturing Technology Training
An IMTMA initiative

Design of Gear Box - Industrial Machinery
Date : 24 to 25 June, 2025
Venue : IMTMA Technology Centre, Bengaluru

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 calculations, 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. Part modelling, assembly modelling and detailed drawing using popular design CAD tools will be carried out as a project. DFM and DFMA will be a key points addressed in the training.

Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organising a training programme on **“Design of Gearbox–Industrial Machinery”**

FOCUS AREAS

- Introduction to Gear box and their advantages and disadvantages over other drives.
- Types of Gear boxes and Applications.
- Types of Gears and general features.
- Nomenclature of Spur and helical gears.
- Gear design and strength calculations.
- Gear Correction factor, Gear Tooth Action
- Worm Gears and their terminology
- Bevel gears and their terminology.
- General design concepts for shaft, Keys and circlips.
- Design of Gear Box- Project.
- Selection of type of gear box.
- Type of gears and stages of reduction.
- Motor selection.
- Gear sizing and strength calculations.
- Estimation of Gear forces.
- Shaft and shaft strength calculation/sizing.

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. 10450/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 415/-
Overseas Participants

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

FACULTY

The programme will be conducted by **Mr P. Aruna Kumar**.

Mr. P. Aruna Kumar, a Post graduate in Mechanical Engineer in Machine tool specialisation. With over 36 years of domain expertise in Machine tool design, Assembly, Inspection and Testing. A former DGM, Designs and development, HMT Machine tool division, Bangalore. With rich experience in Gear design,Gear cutting machine design, Gear metrology and also other Machine tool Design.

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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.