

## INTRODUCTION

**Gear Manufacturing** is a fairly complex metal-cutting process and forms an integral part of many industrial products. Gears and Gear drives are one of the key components of all kinds of vehicles, machine tools, aircrafts, household appliances as well as a broad variety of industrial equipments. Proper understanding about the various Gear manufacturing processes and controlling parameters is essential in order to meet the growing demands for better productivity and quality of gears.

## FOCUS AREAS

- Understanding of Gear Terminology
- Process flow of Gear manufacturing Gear Machining in soft - Hobbing, Shaping, Shaving Gear Machining in Hard - Grinding, Lapping
- Gear Blank Preparation

- Gear Hobbing – Process parameters; Different methods of hobbing
- Work set up and Hob set up methods; Process optimization and productivity improvement
- Cutting Tools for Hobbing
- Hob Shifting / Hob Life
- High speed gear Hobbing with case studies

- Gear Shaping – Working Principle; Process parameters;
- Different methods of shaping
- Shaping of internal and external gears; Industry application examples
- Work set up and Cutter set up methods
- Process optimization and productivity improvement
- Cutting Tools for Shaping

- Basic concepts for gear measurement
- Definitions of terms
- Size measurement & form measurement
- Single and Double flank composite inspection
- Run out characteristics
- Gear Measuring Machines & Instruments
- Gear quality classification – DIN, JIS, ISO and AGMA standards
- Industry Examples

## KEY TAKE AWAYS

After undergoing the programme, the participants will be able to -

1. Have an overview of gear manufacturing with process flow from beginning to end.
2. Understand process parameters and optimising gear manufacturing processes in soft - Gear Hobbing, Gear Shaping and Gear Shaving.
3. Know about concepts for gear measurement.
4. Learn about Cutting Tools for Hobbing, Shaping and shaving
5. Industry example for hobbing and shaping

## PARTICIPATION FEE

**Rs. 9500/-**

+18% GST

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

**USD 380/-**

**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 Engineers and personnel involved in design, Production, Process Planning, Manufacturing functions of gear manufacturing industries. Engineers from Machine Tool, Automobile & Auto ancillaries, Consumer Durables, Aerospace, Industry Machinery, Defence & Railway units, General Engineering and other Capital goods manufacturing industries also can participate.

## FACULTY

The Program will be conducted by **Mr. Vishwajit Kothari** .

**Mr. Kothari** is a Mechanical Engineer by profession, has more than 25 Years of experience in the machine tool industry and in gear manufacturing. He has worked with organizations like Premier Ltd., Pune, a pioneer and a renowned machine tool company in India since 1944. He is an accomplished professional having wide exposure in Application Engineering of Machine Tools , Gear Cutting Machines, Gear manufacturing, Machining Centers and Vertical Turn-mill Centers. He has experience in Techno-commercial Sales and Marketing, New Part Development, Part Programming, Machine Tryouts, Design & Development of Tooling & Work Holding Fixtures on various machines.

### 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.