

## INTRODUCTION

Machining technology is progressing quickly, with advances in hard milling, high speed machining, chip thinning, live tooling on lathes, and many more. 5 axis Machining Centres form the latest in the series providing infinite possibilities as to the part sizes, shapes and complex profiles which cannot be machined in a single set up. Its multidirectional approach to cutting tool ensures increased productivity, highest accuracy, rigidity and improved surface finish. 5 axis machining will enable single set up machining of sophisticated design components having widespread applications in aerospace, die/mold, energy and automotive sectors.

Systematic training in 5 axis machining is a must to realise the benefits of machining multiple faces of the component in single set up.

Keeping this in view, Indian Machine Tool Manufacturers' Association (IMTMA) is organising 3 day programme on **“Mastering 5-Axis CNC Programming: Advanced Techniques and Strategies” from 26 - 28 July 2023** at Pune.

## FOCUS AREAS

- Overview of 5-Axis CNC Machining
- Advantages and applications of 5-Axis CNC programming
- Understanding machine kinematics and tool paths
- Advanced toolpath generation techniques for 5-Axis machining
- Optimizing toolpath efficiency and quality
- Collision avoidance strategies
- Machining complex geometries using 5-Axis CNC programming
- Strategies for machining curved surfaces, freeform shapes
- Efficient programming for multi-surface machining
- Strategies for simultaneous 5-axis machining
- 3+2 machining techniques and applications
- Advanced indexing and rotational machining techniques
- Selection of appropriate cutting tools for 5-Axis machining
- Toolpath optimization for reducing tool wear and increasing tool life
- Toolpath smoothing techniques for improved surface finish
- Post-processing considerations for 5-Axis CNC programs
- Verifying and simulating 5-Axis toolpaths
- Detecting and resolving potential issues in simulation
- Exploring advanced features in CAD/CAM software for 5-Axis CNC programming

## KEY TAKE AWAYS

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

- Understand machining a component with 5-axis programming.
- Effective manufacturing with single set up.
- Reduced error due to less number of setting.
- Hands-on practice on Mastercam software for 5 - axis machining of sample component

## PARTICIPATION FEE

**Rs. 12500/-**  
+18% GST  
**IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others**

**USD 500/-**  
**Overseas Participants**

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

## PARTICIPANT PROFILE

Working professionals from CNC Machine shops willing to remain current and competitive in the business

Individuals looking for career growth in CNC multi axis machining

## FACULTY

Training from Industry experts from IMTMA and Mastercam

### For Registration Contact

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### Contact Address

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