Greetings from CMTI

We are pleased to inform you that we are conducting a 03 day Non-Residential Training programme on **"Ultraprecision Machining and Advanced Surface Finishing Process – DTM, AFM, Laser Polishing", course code: 4206**

Highlights / Overview of the Program:

Provide a comprehensive understanding of ultra-precision machining and advanced surface finishing technologies through demonstrations.

- Cover ultra-precision machining, including:
  - Single-point diamond turning (SPDT) machining and its applications
  - Micromachining and its applications
  - Laser based micromachining and its applications
- Cover advanced polishing and finishing processes, including:
  - Laser Polishing
  - Magneto-Abrasive / Magneto-Rheological Finishing (MAF / MRF)
  - Abrasive Flow Finishing (AFF)
  - Electrochemical Polishing
  - Lapping of spherical and complex surfaces
- Explain the principles, process parameters, and applications of each finishing technique.
- Provide hands-on demo of selected ultra-precision machining and finishing processes.
- Offer practical exposure to state-of-the-art equipment and facilities at CMTI.
- Enable participants to understand real-world industrial and research challenges in ultra-precision manufacturing.
- Facilitate interaction with experts and exposure to cutting-edge methodologies and best practices.

Target Participants:

- Researchers and Academicians in material sciences, mechanical engineering, and manufacturing.
- Industry Professionals in precision machining, surface finishing, and quality assurance.
- Graduate and Postgraduate Students specialising in advanced manufacturing and materials engineering.
- Engineers and technicians are interested in learning about surface treatment techniques.

Programme Schedule

It is 03 day Non Residential Training Programme scheduled during **06th - 08th May 2026.** The Programme will be held at Central Manufacturing Technology Institute, Bengaluru.

Participation Fees

Rs. 11,700/- plus GST @ 18%, per participant. This includes Course Kit, working veg lunch, mid session tea.**

Course Fee can be paid through **NEFT / RTGS / Demand Draft.** Demand Draft to be drawn in favor of "Central Manufacturing Technology Institute", payable at Bangalore and should reach CMTI one week before the actual date of commencement of the course.

Beneficiary for RTGS/NEFT

a) **Name** : **Central Manufacturing Technology Institute**
b) **GST No: 29AAATC2085K1ZJ**
c) **Account No :10521862015**
d) **Bank Name & Branch: State Bank of India, Yeshwanthpur Branch**
e) **IFSC Code :SBIN0003297**
f) **MICR Code : 560002055**

Additional Information:

1. A 10% rebate on course fee will be given to organizations nominating 3 or more participants for each programme, only if payment is made in advance, ten days before the commencement of the course.
2. Individuals/ Companies interested in participation are requested to fill in the enclosed Enrollment Form and submit at the earliest.
3. Participants are advised to proceed for the programme only after the nominations / Programme confirmed by us (by Fax / Letter / Phone / E-Mail).

For further enquiries / registration / nominations, please contact:
Mr. Arun Kumar J G, Joint Director & Centre Head – AEAMT,
09449842686 / 78 Fax: (080) 2337 0428
E-mail– training@cmti.res.in, aravinda@cmti.res.in

4. Participants should report at CMTI on the day of commencement of the course. Participants are advised to reach Bangalore the previous day evening/ night.
5. Course will be conducted from 09:00 to17:00 hrs. Participants may plan their return journey accordingly.
6. Participants will be given Certificate after the completion of the Training Programme
7. Enclosed are the tentative programme contents for ready reference
8. GST No. to be shared while sending your nomination / Registration (If a company is exempted from GST they have to provide GST Exemption certificate).
9. Please note that Course fee once paid will not be refunded. However, change in nomination will be permitted.

Note: * Taxes and other levies will be charged as per the prevailing rates at the time of Billing**

Training Programme

On

"Ultraprecision Machining and Advanced Surface Finishing Process – DTM, AFM, Laser Polishing"

Tentative Programme Schedule

Days	Topic
Day 01	Registration & CMTI Introduction
	Introduction to Micromachining
	Introduction to Metrology
	Introduction to Single Point Diamond Turning and Applications
	SPDT Tool Setting Process Methodology
	Demonstration: Flat Mirror machining on Single Point Diamond Turning and Micro-Manufacturing lab **@ MNTM Workshop**
Day 02	Ultra Precision Machining of Optical Surfaces: Hybrid / Compound Diamond Machining
	Laser Based Micromachining
	Abrasive Flow Finishing Technique
	Magneto-Abrasive/Rheological Finishing Techniques
	Super finishing process on the Spherical Surface by Lapping
	Demonstration Abrasive flow finishing demo @ **Central Manufacturing Facility**
Day 03	Introduction to Laser Polishing Technique & Its Applications
	Introduction to Electrochemical Polishing & Its Applications
	Characterizations: **@ MNTM Metrology Lab** Using Form Talysurf & Roughness Measurement.
	Characterizations: **@ NMTC Metrology Lab** Using a Confocal Microscope and an Optical Profiler.
	Demonstration of CMTI R&D Facilities
	Concluding Session

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