

Greetings from CMTI,

We are pleased to inform you that we are conducting a 04 day Non-Residential Training programme on **"Advanced Materials Characterization Techniques", course code 0390**

### **Highlights / Overview of the Program:**

This course covers a review of materials characterization techniques, which can be used to analyse nanomaterials also. This course includes optical characterization techniques such as Raman and Fourier Transform Infrared Spectroscopy and, Spectroscopic Ellipsometry; electron microscopy techniques such as transmission Electron microscopy and Field Effect scanning Electron Microscopy (FESEM) and its sample preparation processing and, X-ray diffraction (XRD), Atomic Force Microscopy, Surface Area analysis and Nano-indentation techniques. Course also covers Particle size analyzer, Confocal Microscope, Optical Profiler, Rheometer and Microhardness tester.

### **Target Participants:**

Materials science / engineering group, scientist / engineer in Aerospace, Defence Research / Production, Industrial / Public sectors scientist / engineer and academic students.

### **Programme Schedule**

It is 04 day Non Residential Training Programme scheduled during **23<sup>rd</sup> – 26<sup>th</sup> September 2024**. The Programme will be held at Central Manufacturing Technology Institute, Bangalore

### **Participation Fees**

**Rs. 15,600/- plus GST @ 18%\*\*\*, per participant. This includes Course Kit, working veg lunch, midsession 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).
- 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 to 17:00 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**

For further enquiries / registration / nominations, please contact:  
**Asha R Upadhyaya, Joint Director & Centre Head – AEAMT,**  
09449842686 / 78 Fax: (080) 2337 0428  
E-mail– training@cmti.res.in, sarmavap@cmti.res.in

**CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE**  
Tumkur Road, Bangalore 560 022

**Training Programme**  
On  
**'Advanced Material Characterization Techniques'**

**Tentative Programme Schedule**

<b>Date</b>	<b>Topic</b>
Day 1	Introduction
	AFM
	Surface Area Analysis
	Demonstrations
Day 2	SEM
	TEM
	Sample preparation and TEM
	Demonstrations
Day 3	Raman, FTIR and Particle Size Analyser
	X-Ray Diffraction (XRD)
	Characterization by Rheometer
	Demonstrations
Day 4	Nano Indentation
	Ellipsometry
	Confocal Microscopy & Optical Profilometry
	Demonstrations
	Concluding Session