Greetings from CMTI

We are pleased to inform you that we are conducting a 02 days Non-Residential Training programme on **"Additive Manufacturing & Rapid Tooling", course code 0520**

Highlights / Overview of the Program:

Additive Manufacturing (AM) is a new technology tool for engineers to produce parts directly from 3D CAD model data by addition of material layer by layer. It can produce virtually any complex shape and reduces time and cost of new product development. AM systems are available for producing direct metal parts and moulds. This is termed as Rapid Tooling, which can be applied in producing tooling for injection moulding, investment casting, sheet metal forming and die casting applications.

The AM Machines installed at CMTI incorporates the latest technology of Direct Metal Laser Sintering (DMLS) from M/s EOS GmbH, Germany, Direct Metal Deposition (DMD) from M/s POM, USA and Micro Stereolithography (MSL) developed by CMTI, Bengaluru. The EOSINT M250 Xtended laser powder bed fusion system generates 3D parts directly from CAD data. The parts are built up in thin layers by local melting of metal powders using a computer controlled laser beam. The 3D metal part / rapid tool obtained from the machine are suitable for tooling industry. DMD machine uses a high power laser to fabricate fully dense metal parts by melting metal powders fed through a nozzle. This technology enables manufacturing of new components, bimetallic parts, functionally gradient materials, hard-facings, coatings and adding new features on high-value, complex components as well as remanufacturing of worn or damaged components such as gas turbine blades, stator vanes etc. MSL involves UV laser beam / patterned UV light irradiating the free surface of a UV-curable liquid photopolymer, causing it to solidify. This process can be used to fabricate small components like sensor heads, micro impellers, micro gears, micro needles, micro moulds and dies etc for different applications like medical, environmental, energy etc.

Target Participants:

Manufacturing, Tooling Engineers, Product Development Engineers

Programme Schedule

It is 02 days Non Residential Training Programme scheduled during **27th – 28th June 2023.** The Programme will be held at Central Manufacturing Technology Institute, Bangalore

Participation Fees

Rs. 7,800/- 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 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**

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

CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE
Tumkur Road, Bangalore 560 022

Training Programme
On
'Additive Manufacturing & Rapid Tooling'

Tentative Programme Schedule

Days	Particulars
Day 1	Overview of AM Technologies
	Direct Metal Laser Sintering, Direct Metal Deposition & Rapid Tooling
	Microstereolithography
	Constructional features and functions of different parts of DMLS and DMD Machines
	CAD Pre-Processing, Slicing & Design for AM
	Tool Path generation for DMD Machine using DMDCAM Software
Day 2	AM Process Parameters
	Training on Operation and Programming of DMLS Machine
	Smart Manufacturing Demonstration
	Training on Operation and Programming of • DMD Machine
	• Microstereolithography
	Concluding Session

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