

Greetings from CMTI

We are pleased to inform you that we are conducting a 05 day Non-Residential Training programme on "**Mechatronics & Manufacturing Automation**", course code 0720

### Highlights / Overview of the Program:

Mechatronics deals with Mechanical, Electrical, Electronics, Computer Science and Control Engineering. Mechatronics is considered as one of the promising technologies for various industries such as Automobiles, Consumer Goods, and Automation Systems etc. The course aims at providing a theoretical base along with practical training on various aspects of Mechatronics such as :

- Electrical controls – Concept of PLC, Configuration and Programming
- Hydraulic Controls
- Pneumatic and Electro pneumatic controls
- Sensors, Instrumentation and its integration
- Machine Vision based solutions
- Mechatronics in automation

### Target Participants:

Scientists & Engineers involved in machine design, design of automated systems, manufacturing and maintenance.

### Programme Schedule

It is 05 day Non Residential Training Programme scheduled during **17<sup>th</sup> – 21<sup>st</sup> July 2023**. The Programme will be held at Central Manufacturing Technology Institute, Bangalore

### Participation Fees

**Rs. 19,500/- 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, Centre Head – AEAMT,**

09449842686 / 78 Fax: (080) 2337 0428

E-mail– training@cmti.res.in, vinay@cmti.res.in

# CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE

Tumkur Road, Bangalore 560 022

## Training Programme On 'Mechatronics & Manufacturing Automation'

### Tentative Programme Schedule

Day	Particulars
Day 1	<b>Manufacturing Automation</b> - An overview Overview of Mechatronics, Examples of Mechatronics systems
	<b>Machine Elements</b> – Overview of machine elements features & functionality
	Demo on Machine elements
	<b>CNC System</b> - CNC System architecture & Closed loop operation
Day 2	<b>Hydraulic controls</b> - Concepts of Hydraulics, Power packs, pump, actuators & their applications
	Hydraulic Control valves, Connecting elements, accessories etc
	Demo - Hydraulics - Mechanically operated & electrically operated hydraulics valves, actuators etc.
Day 3	<b>Sensors &amp; Transducers</b> - Sensors & its integration with data acquisition card
	Vision Basics, Application of Vision for Industries
	Feedback Devices
	Demo – Automation & Vision Systems
Day 4	<b>Communication Protocols – Ether CAT, Device Net, SERCOS, CAN Open, etc</b>
	Laboratory Visit
	<b>Case Study – Testing Automation</b>
	Sensors & Transducers Demo
Day 5	<b>PLC</b> - Basics of PLC, Ladder diagram, Logic realization
	<b>Hands On exercise on PLC</b> - Ladder programming, Compiling, Downloading & executing the program
	Demo on Fanuc & 840D System
	Demo - Parallel Kinematic Machine