

# **Training Programmes 2020**

STIC proposes training Programs on Analytical Instrumentation and Calibration Techniques. The training includes Lectures on each topic/ parameter, Laboratory demonstrations and Hands on training. Course materials will be supplied. Successful candidates will be issued certificate of Training by STIC. Following are the details of various training programmes.

## **ANALYTICAL INSTRUMENTATION**

**Co-ordinators: Dr. Shibu M Eappen/ Adarsh K.J**

<b>Schedule</b>	<b>Module</b>	<b>Topics Covered</b>	<b>Course Fee (INR) GST 18% Extra</b>
<b>Jan 2020- 03 days</b>	<b>Module No.: A2001</b>	<b>Fourier Transform Infrared Spectroscopy</b> <b>Infrared spectroscopy Theory – Infrared spectrometer</b> <b>Instrumentation- FTIR applications.</b> <b>Thermal Analysis:</b> <b>Thermal Analysis Introduction – Instrumentation and</b> <b>applications of TGA-DTA and DSC</b>	<b>15000/-</b>
		<b>Electron Microscopy:</b> <b>Electron Microscopy Theory and Introduction to SEM</b>	

<p><b>June 2020 – 04 days</b></p>	<p>Module No.: A2005</p>	<p>and TEM- Quantitative analysis in microscopy-EDAX- Instrumentation and applications X-Ray Diffraction: Introduction to X-Ray Diffraction - Instrumentation- Applications Qualitative and quantitative X-ray Diffraction Analysis- Introduction to Single Crystal X-Ray diffraction.</p>	<p>20000/-</p>
<p><b>August 2020 – 04 days</b></p>	<p>Module No.: A2007</p>	<p><b>Elemental Analysis:</b> Introduction to CHNS analysis- Instrumentation CHNS Analyzer. - ICPAES Theory and Instrumentation, Introduction to sample preparation. Principle and Instrumentation of Mercury Analyzer. NMR Analysis NMR Theory and application- Instrumentation</p>	<p>20000/-</p>
<p><b>November 2020 - 05 days</b></p>	<p>Module No.: A1709</p>	<p>Fourier Transform Infrared Spectroscopy Thermal analysis Electron Microscopy X-Ray Diffraction Elemental analysis NMR Analysis</p>	<p>30,000/-</p>

## **CALIBRATION TECHNIQUES**

**Co-ordinators: Paul V. John/ Sreeja V**

<b>Schedule</b>	<b>Module</b>	<b>Topics Covered</b>	<b>Course Fee (INR)</b>
<b>February 2020 -03days</b>	<b>Module No.: C2002</b>	<b>Calibration of Thermal Parameters: Calibration of glass thermometer, RTD, Thermocouple, Temperature Indicators, Temperature Controllers, Estimation &amp; Evaluation of Total Uncertainty in Measurement, Group exercises on Uncertainty Calculations in Temperature Measurements</b>	<b>15,000/-</b>
<b>April 2020 -03 Days</b>	<b>Module No.: C2003</b>	<b>Calibration of Pressure, Vacuum and Dimensional Parameters: Dead Weight Testers, Portable Calibrators, Dial Gauges/Venire/Micrometers/Height Gauges/Depth Gauges, Scale and Tape Calibration, Estimation &amp; Evaluation of Total Uncertainty in Measurement, Group exercises on Uncertainty Calculations.</b>	<b>15,000/-</b>
		<b>Mass and Volume Calibration:</b>	

<p><b>May 2020</b> <b>-03 Days</b></p>	<p><b>Module</b> <b>No.: C2004</b></p>	<p><b>Standards Weights / Electronics Balances, Micropipettes/ Glass Pipettes/ Volumetric Flasks/Cylinder/ Syringes/Burettes, Estimation &amp; Evaluation of Total Uncertainty in Measurement, Group exercises on Uncertainty Calculations.</b></p>	<p><b>15,000/-</b></p>
<p><b>July 2020</b> <b>-03days</b></p>	<p><b>Module</b> <b>No.: C2006</b></p>	<p><b>Calibration of Electro Technical Parameters: Calibration Philosophy, Traceability of Standards, Standard Practices in Laboratories, Errors in Measurements &amp; its Estimation, Calibration of Voltmeter, Ammeter, Frequency Meter, Wattmeter, Phase Angle/Power Factor Meters, Analog / Digital Multimeter, Insulation Testers, Measurements of L, C, R, Multi Function Calibrators etc., Estimation &amp; Evaluation of Total Uncertainty in Measurement, Group exercises on Uncertainty Calculations in Electrical Measurements</b></p>	<p><b>15,000/-</b></p>
<p><b>November 2020</b> <b>-05 days</b></p>	<p><b>Module</b> <b>No.: C2008</b></p>	<p><b>Electro Technical, Thermal and Mechanical Calibration: Basics concepts of calibration, Calibration methods in Electro Technical, Thermal &amp; Mechanical (Mass, Volume, Pressure, Dimension), Group exercises on Uncertainty Calculations in Measurements</b></p>	<p><b>25,000/-</b></p>



**Please note the following:**

- (1) The training will be imparted as per the facilities available in STIC
- (2) The participants should be at least graduates or diploma holders in science/technology or other relevant areas.
- (3) Participants are advised to proceed for the programme only after a confirmation is received from us.
- (4) All training sessions will be handled by scientific and technical personnel of this Centre.
- (5) On the job training will be provided as per the availability of the instruments.
- (6) The candidates should fill an application during the admission for the programme.
- (7) The course fee should be paid in advance.
- (8) The participants will be provided with working lunch and tea/snacks during the programme.
- (9) All participants should make their own arrangements for lodging.
- (10) The certificates for the above courses will be issued by STIC.
- (11) STIC has the right to postpone/cancel the programme in case of inadequate number of participants or due to any other reasons.
- (12) GST @ 18% extra in course fee

For details please contact over email/phone

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