ABOUT SOPHISTICATED INSTRUMENTATION FACILITY

The state-of-the-art research facility at the institute has been pooled under the Sophisticated Instrumentation facility (SIF) to support the research activities of faculties and students. This initiative is to make the resources available under the sharing basis for carrying out the research and consultancy activities. One of the primary objectives of this facility is to promote and strengthen collaborative activities with other institutes and industries. SIF envisages to make use of the facilities at its maximum potential and disseminating the resources available to the smaller institutes and industries.

Contact Angle Measurement

- Make: Apex Instruments
- Model: ACAM-D3
- Applications: Measurement of contact angle with water as fluid for thin film or solid with smooth surface
- Testing Charges:

<table>
<thead>
<tr>
<th></th>
<th>Internal User (Rs/sample)</th>
<th>External (Academic) (Rs/sample)</th>
<th>R&amp;D Lab (Rs/sample)</th>
<th>Industry (Rs/sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Angle</td>
<td>150</td>
<td>250</td>
<td>300</td>
<td>450</td>
</tr>
<tr>
<td>Tilt Angle</td>
<td>250</td>
<td>350</td>
<td>500</td>
<td>750</td>
</tr>
</tbody>
</table>

Thermal Cycling Chamber

- Make: CME Bangalore
- Model: PAC-120-A-7K
- Applications: Measurement of Thermal cycling Tests with temperature range between -40°C to 180°C
- Testing Charges:

<table>
<thead>
<tr>
<th>Temp. Range</th>
<th>Internal User (Rs/cycle)</th>
<th>External (Academic) (Rs/cycle)</th>
<th>R&amp;D Lab (Rs/cycle)</th>
<th>Industry (Rs/cycle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-20°C to RT</td>
<td>45</td>
<td>50</td>
<td>90</td>
<td>150</td>
</tr>
<tr>
<td>RT to 100°C</td>
<td>40</td>
<td>45</td>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td>100 to 160°C</td>
<td>45</td>
<td>50</td>
<td>90</td>
<td>150</td>
</tr>
</tbody>
</table>

CEDI Building, NIT Trichy
sif@nitt.edu
9489394853
### Differential Scanning Calorimetry (DSC)

- **Make:** SETARAM
- **Model:** Setline DSC
- **Applications:** Measurement of heat flow and Specific Heat Capacity at constant pressure (CP) from -30°C to 600°C
- **Testing Charges:**
  - Internal User (Academic): Rs.740 (min. Rs. 450, max. 1000)
  - External User (Academic): Rs. 960 (min. Rs. 600, max. 1300)
  - R&D Lab: Rs.1440 (min. Rs. 900, max. 1500)
  - Industry: Rs.3600 (min. Rs. 1350, max. 2000)

<table>
<thead>
<tr>
<th>Temp. Range</th>
<th>Internal User (Rs/ sample)</th>
<th>External User (Rs/ sample)</th>
<th>R&amp;D Lab (Rs/ sample)</th>
<th>Industry (Rs/ sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-30 °C to RT (Rs/ hr)</td>
<td>650 (min. Rs.540)</td>
<td>790 (min. Rs.790)</td>
<td>1300(min. Rs.1080)</td>
<td>1800(min. Rs.1620)</td>
</tr>
<tr>
<td>RT to 600 °C (Rs/ hr)</td>
<td>500(min. Rs.450)</td>
<td>625(min. Rs.625)</td>
<td>1000(min. Rs.900)</td>
<td>1500(min. Rs.1350)</td>
</tr>
</tbody>
</table>

### Thermo Gravimetric Analysis (TGA)

- **Make:** SETARAM
- **Model:** LABSYS EVO
- **Applications:** Determination of mass changes in mg and wt% with Temperature, Study of Thermal Stability of the material
- **Testing Charges:**
  - Internal User (Academic): Rs.150 (Rs/ sample)
  - External User (Academic): Rs.180 (Rs/ sample)
  - R&D Lab: Rs.790 (Academic)
  - Industry: Rs.1350 (Academic)

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<tr>
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<th>Industry (Rs/ sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT to 1000 °C (Rs/ hr)</td>
<td>Rs.740 (min. Rs. 450, max. 1000)</td>
<td>Rs. 960 (min. Rs. 600, max. 1300)</td>
<td>Rs.1440 (min. Rs. 900, max. 1500)</td>
<td>Rs.3600 (min. Rs. 1350, max. 2000)</td>
</tr>
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### Trident C-Therm

- **Make:** C-Therm
- **Model:** Trident
- **Application:** Measurement of Thermal Conductivity and Effusivity
- **Sample:** Powder, Liquid, Metals, Pellets etc.
- **Testing Charges:**
  - Internal User (Academic): Rs.1000
  - External User (Academic): Rs.1300
  - R&D Lab: Rs.2000
  - Industry: Rs.2600

### Force Tensiometer

- **Make:** Biolin Scientific
- **Model:** T700-Sigma
- **Applications:** Measurement of Surface Tension, Interfacial Tension, Density of Liquid and Adhesion force
- **Sample:** Liquid
- **Testing Charges:**
  - Internal User (Academic): Rs.300
  - External User (Academic): Rs.500
  - R&D Lab: Rs.750
  - Industry: Rs.1000

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<tr>
<td>100</td>
<td>150</td>
<td>350</td>
<td>700</td>
</tr>
</tbody>
</table>

### UV-Visible Spectroscopy

- **Make:** PerkinElmer
- **Model:** LAMDA 365
- **Applications:** Measurement of Absorbance, % Transmittance, % reflection
- **Sample:** Solid, Liquid
- **Testing Charges:**
  - Internal User (Academic): Rs.250
  - External User (Academic): Rs.350
  - R&D Lab: Rs.750
  - Industry: Rs.1000

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### Laser Flash Apparatus

- **Make:** Netzsch
- **Model:** LFA 457
- **Applications:** Measurement of Diffusivity at various Temperatures
- **Testing Charges:**
  - Internal User (Academic): Rs.1200
  - External User (Academic): Rs.1400
  - R&D Lab: Rs.2400
  - Industry: Rs.3000

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<tr>
<td>1200</td>
<td>1400</td>
<td>2400</td>
<td>3000</td>
</tr>
</tbody>
</table>

### Fourier Transform Infrared Spectroscopy (FTIR)

- **Make:** PerkinElmer
- **Model:** Spectrum Two
- **Applications:** Structure Determination
- **Sample:** Solid, Liquid, powders, Thin films
- **Testing Charges:**
  - Internal User (Academic): Rs.150
  - External User (Academic): Rs.200
  - R&D Lab: Rs.750
  - Industry: Rs.1500

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<td>200</td>
<td>750</td>
<td>1500</td>
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### KD2 Pro- Thermal Conductivity Analyzer

- **Make:** Decagon
- **Model:** KD2 Pro
- **Applications:** Measurement of Thermal Diffusivity at RT
- **Sample:** Liquid
- **Testing Charges:**
  - Internal User (Academic): Rs.250
  - External User (Academic): Rs.350
  - R&D Lab: Rs.750
  - Industry: Rs.1000

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<tbody>
<tr>
<td>250</td>
<td>350</td>
<td>750</td>
<td>1000</td>
</tr>
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</table>