

**One week Training Course on
Thermal Analysis Techniques for
Materials Characterization
Central Diagnostic Laboratory (CDL)
& Materials Division (MD)
PINSTECH, P.O. Nilore, Islamabad
May 10 – 14, 2010**

Training Course Organizers



**One week Training Course on
THERMAL ANALYSIS TECHNIQUES
FOR MATERIALS CHARACTERIZATION**

May 10 - 14, 2010

Registration Form*

Name: _____

Father's Name: _____

Date of Birth: _____

NIC No: _____

Highest Qualification: _____

Experience: _____

Designation/Post: _____

Organization/Establishment: _____

Mailing Address: _____

E-Mail: _____

Ph: Off: _____ Home: _____

Mobile: _____

Fax: _____

Signature (Participant): _____

Date: _____

Recommendation by Head of nominating Establishment: _____

Signature/Date _____

Stamp: _____

**Note: Participants from Universities/ academic institutions and other non-strategic organizations are required to submit security clearance form (copy attached) along with two photographs at least two weeks before the start of workshop.*

Incharge CDL, PINSTECH

Patron-in-Chief: Dr. Shoaib Ahmad
Member (Physical Sciences), PAEC

Patron: Engr. Nasrullah Khan Qazi
Director General, PINSTECH
Dr. Jamshad H. Zaidi
Director Science, PINSTECH

Organizers: Engr. Nisar Ahmad
Director Technology, PINSTECH
Dr. Nazar Hussain
Head Materials Division, PINSTECH
Dr. Ammad H. Qureshi
Incharge CDL, PINSTECH

Contact Persons (PINSTECH):

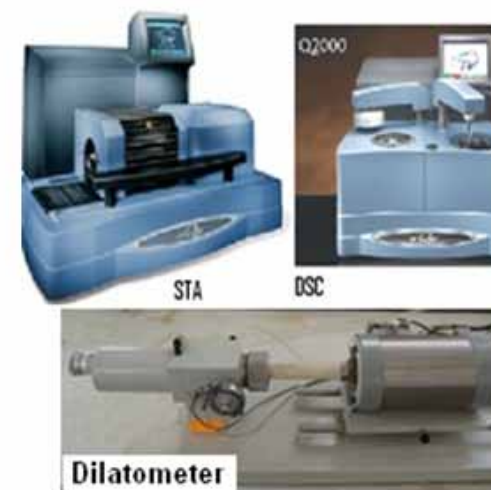
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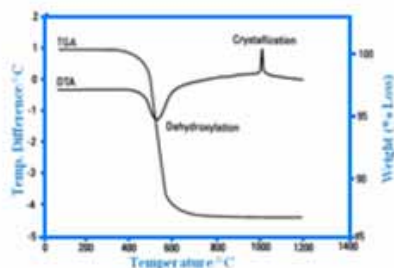


**Central Diagnostic Laboratory (CDL)
& Materials Division (MD)
Pakistan Institute of Nuclear Science & Technology (PINSTECH)
P. O. Nilore, Islamabad**

INTROCUCTION

Simultaneous Thermal Analysis (STA)

STA is widely used for the study of decompositional mechanisms and oxidation reactions. This is also suitable to study the physical processes such as vaporization, sublimation and desorption of materials.



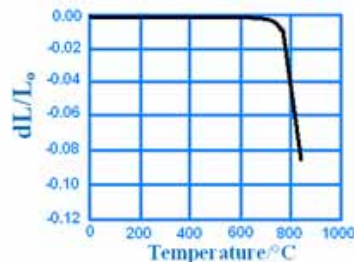
Differential Scanning Calorimetry (DSC)

DSC is used for qualitative analysis, heat capacity, glass transition temperature, crystallization temperature and to construct phase diagram of materials.



Dilatometry

It is widely used to determine the thermal expansion coefficient of materials. It is also useful for the kinetic study of sintered powder.



OUTLINE OF THE TRAINING COURSE

Lectures

May 10-12, 2010

1. Thermogravimetric Analysis (TGA) to evaluate and optimize the physical/chemical properties.
2. Differential Thermal Analysis (DTA) to determine the decompositional behavior of materials.
3. Differential Scanning Calorimetry (DSC) and its applications in chemical kinetics.
4. Role of Dilatometry in the sintering of materials.

Hands on Training

May 10-14, 2010

- Sampling: STA, DSC, Dilatometry
- Experiment: STA, DSC, Dilatometry
- Results Evaluation
- Discussion

Faculty Members

- Dr. Shahid K. Durrani, DCS
- Dr. Khalid Nasir, DCS
- Dr. Ammad H. Qureshi, DCE
- Mr. Muhammad Arif, PTO
- Mr. Hassan Waqas, SS
- Mr. Khurram Shahzad, SE

PARTICIPANTS

Eligibility

Only Engineers / Scientists having background of Materials / Physics / Chemistry.

Minimum Qualification: B.E / M.Sc

Course Fee

Rs: 8000/- per participant

(Payable at registration desk by Cross Cheque in favor of PD Phase-II, PINSTECH A/C 19661-1)

Last Date for Submission

Registration Form duly recommended by the Head of Establishment should reach HRD, PINSTECH, P. O. Nilore, Islamabad before April 12, 2010.

(Soft copy of registration form is available at <http://www.sidnlps.org.pk>)

Accommodation

Participants will have to make arrangement of stay in Islamabad/Rawalpindi at their own.

Pick & Drop to PINSTECH

En-route pick & drop from Rawalpindi / Islamabad to PINSTECH will be provided.