

Guru Nanak Institute of Technology

Centre of Excellence

Centre of Nanoscience and Technology Research

(CNTR)

Sponsored by DST, Govt of India

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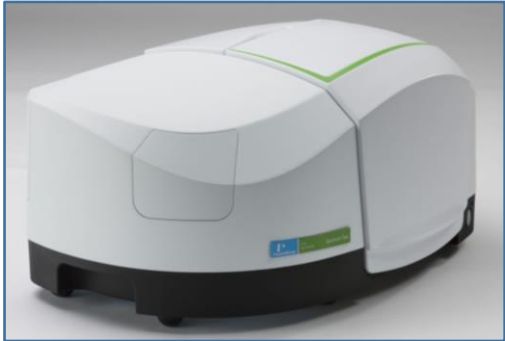

INTRODUCTION:

The Centre of Excellence in Development of R&D Infrastructure for Nanotechnology Research and Education at Guru Nanak Institute of Technology, Panihati, Kolkata-114 has been established by the department of Electronics and Communication Engineering in 2020 through a grant of DST-FIST (Sanction letter no:SR/FST/COLLEGE-466/2018). The grant was received in response to a proposal prepared by Principal investigator Dr. Sunipa Roy (PI) and CO-PI Dr. Nabaneeta Banerjee, Dr. Sucharita Bhattachariyya , Dr. Sreyasree Basu and one of the eminent faculty member Dr Soumik Podder under the active guidance of Dr. Sunipa Roy. Since inception, the centre has installed a number of high-tech equipments including spectrum two FT-IR spectrometer, Thermal Vacuum Coater (SS-304), Centrifuge (REMI , RM12C), Delta Spin Coater (500-1000 rpm), Digital Hot Air Oven, Semiconductor Parameter Analyzer (Hioki IM3536). The centre offers all year around many interesting events like student training and students development programs.

- ❖ For collaboration and more information, please contact Dr. Sunipa Roy (sunipa.roy@gnit.ac.in)
- ❖ For access request, please contact Dr. Soumik Podder (soumik.podder@gnit.ac.in)

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List of equipments are currently available in the lab:

Sr. No.	Details of the Equipments	Photographs of the Equipments
1	<p><u>Thermal Vacuum Coater</u></p> <p>Make : Transcend Engineering Enterprise</p> <p>Model: SS-304</p> <p>Delivery date: 07.08.2021</p> <p>Use: Using for depositing metal or metal oxide contacts on flat substrates by evaporating melted material at high temperature.</p>	
2	<p><u>FT-IR Spectrometer</u></p> <p>Make: PerKinElmer</p> <p>Model: Spectrum Two</p> <p>Delivery date: 15.11.2020</p> <p>Use: Using for the identification of unknown materials and confirmation of production materials and revealing the composition of solids, liquids, and gases.</p>	 

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3

CENTRIFUGE

(Max Speed: 16000 rpm)

Make : REMI

Model: RM 12C & RM-1215

Delivery date: 28.10.2020

Use: For growing routine application in biochemical and clinical labs, for Hematocrit, Corpuscle Percentage contents in blood, Serum analysis and precipitate separation etc.



4

Spin Coater

(Speed range: 500-1000 rpm)

Make: Delta Scientific Equipment Pvt. Ltd.

Model: DELTASPIN-MC

Delivery date: 07.10. 2020

Use: For thin film material spin coating applications for universities, laboratory and R & D centers to deposit uniform thin films onto flat substrates of several stages.



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5.

Digital Hot Air Oven

Make: Kolkata Scientific & CO

Model: KSC-HO-741

Delivery date: 05.04.2021

Use: Using for dry glassware, sterilize N95 masks, general instruments, and packaging items in life science, microbiology laboratory, chemical and pharma-ceutical industries, food and beverage industries, textile industries.



6.

Electronic Balance

Make: Sartorius AG Germany

Model: Practum 124

Delivery date: 07.08.2021

Use: Used in the accurate measurement of weight of materials for the laboratories for precise measurement of chemicals which are used in various experiments and provides digital result of measurement with the highest standards of speed, reliability, compliance, and safety



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7.

Precision Multi meter 6.5 digit

Make: FLUKA

Model: 8846A

Delivery date: 10.12.2020

Use: Handling most demanding measurements on the bench or in a system. which measures **volts, ohms, and amps**, with basic V dc accuracy of up to 0.0024%, 10 A current range, and a wide ohms range and also measures frequency and period.



8.

Semiconductor Parameter Analyzer

(4Hz to 8MHz freq with fastest time 1 ms)

Make: Hioki

Model: IM3536

Delivery date: 10.12.2020

Use: All-in-one unit of a power supplies, voltage meters, current meters, switching matrices and LCR meters to test semiconductors and conducting both current-voltage and capacitance measurements.



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9.

Hydraulic Press

(capacity: 15 Ton)

Make: PCI Analytics

Delivery date: 11.10.2020

Use: Producing a force about 15 tones use to make high quality 13mm pallet used for IR/FTIR/XRF Solid sampling, typically used by R&D & QC labs for various pelletizing application whether pressure is applied on any object placed between screw and piston top plate.



For more information and collaboration requests, please feel free to contact

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ADVISORY COMMITTEE DST-FIST LEVEL 0

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2	Dr. Chandan Kumar Ghosh	Associate Professor	J.U. Nanotechnology
3	Dr. Dirtha Sanyal	Senior Scientist	
4	Prof. Arup Mukherjee	UGC Professor	MAKAUT, Harighata Campus