



#### **AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY** (OLD MAHABALIPURAM ROAD VINAYAKA NAGAR, PAIYANOOR, CHENNAI, TAMIL NADU 603104)

# CENTRE FOR NANOTECHNOLOGY RESEARCH



### **CONSULTANCY SERVICES AND SKILL BASED TRAINING**

We are providing the consultancy services and skill based training in the area of nanomaterials synthesis and their characterization

Visit Us @ www.avit.ac.in

E-Mail: nanoconsultancy@avit.ac.in

## **AREAS OF CONSULTANCY SERVICES**

### SYNTHESIS OF NANOMATERIALS

- Sol-gel Method
- Hydro-thermal method
- Green-Synthesis method
- Spin-coating process

### 2 FABRICATION OF NANOSTRUCTURES

- Chemical corrosion
- Materials processing Materials hardening by thermal quenching
- Materials processing Crystallization, defects recovery by thermal annealing

### **3** MATERIALS CHARACTERIZATION

- UV-Vis spectrophotometer (UV-Vis 2600, Shimadzu make) – absorption/emission spectra of liquid samples from 220 to 1400 nm.
- Fourier transform infra-red spectroscopy (FTIR and FTIR – ATR mode)
- Atomic Force Microscope(AFM)
- Characterisation of electrode surfaces using electrochemical work station

TRAINING

We are conducting skill based training to students, faculties from academic institutions and industries who are interested to learn Nanotechnology field under the consultancy services. The training events are scheduled in May and December.

# FACILITIES

Click here to view the facilities List and brief description about the Facilities

https://www.avit.ac.in/researchcenters/Web0/020design0/020 about0/020CNR0/020(AVIT)-0/020(250/020Feb0/0202019).pdf

### CENTRE FOR NANOTECHNOLOGY RESEARCH DEPARTMENT OF HUMANITIES AND SCIENCES



Nanomaterials Synthesis Laboratory - Phase I

Nanomaterials Synthesis Laboratory - Phase II (Furnace, Fume hood, Spin coating Unit)







Characterisation Facility : UV - Vis spectrometer (Shimadzu)



Atomic Force Microscopy set-up (Park XE7)



Characterisation Facility - Fourier Transform Infra-red spectrometer (Shimadzu)



Nanotechnology Laboratory for skill based Training



### DEPARTMENT OF HUMANITIES AND SCIENCES CENTRE FOR NANOTECHNOLOGY RESEARCH REQUISITION FORM

for UV-Vis Spec. / Fourier Transform Infrared spectrometer / Atomic Force Microscopy / Electrochemical workstation / Synthesis of nanomaterials by Sol-gel, Hydro-thermal, spin coating, green synthesis / Materials processing by thermal annealing and quenching in the temperature range between 300 and 1200 K

Name	: Date :			
Designation	: Bill No :			
Department	:			
Name of University / Institution / Industries	:			
Email ID & Contact Number	:			
Type of Analysis	:			
Number of Samples	: (Returnable / Non Returnable)			
Details of samples (Foil/Film/Powder/Crystal (Please indicate the precautions, if toxic or hazardous)	):			
Total Amount	:			
Payment Mode	: DD (In Favour of Aarupadai Veedu Institute of Technology, Paiyanoor)			
Name of the Bank / DD number & Date	:			
Signature of the Guide / Head	Signature of the User			
Note : Please bring previous literatures, if a	vailable,			
For AFM samples: Sample surface should be flat and polishedSize: Should below 1×1 cm²For UV-Vis spectroscopy: only Liquid samplesFor FTIR : Liquid/power or thin film samplesFor Electrochemistry experiments: Electrodes with conducting terminals				
The user may acknowledge "Centre for Nanotechnology Research,Aarupadai Veedu Institute of Technology, Vinayaka Missions Research Foundation for any kind of publications.				
FOR OFFICE USE				
Name of the Operator :	Date Completed :			
Signature of the Operator:	Forwarded by :			

### CONSULTANCY CHARGES FOR NANOMATERIALS SYNTHESIS, SAMPLE CHARACTERISATION AND SKILL BASED TRAINING

Contact Person: Dr R. N. Viswanath, Co-ordinator, Centre for Nanotechnology Research, Department of H & S, AVIT. Mobile: (+91) 9362625622, (+91) 8754 541 026 (office) e.mail: nanoconsultancy@avit.ac.in, rnviswanath@avit.ac.in

#### Part A : Synthesis and Processing of bulk and Nanomaterials

	CONCESSIONAL CHARGES			
Synthesis of Nanomaterials (oxides, ceramics and composites)	Students and Scholars	Scientists and Faculties from other institutions	Industry	
	Amount in Indian Rs.	Amount in Indian Rs.	Amount in Rs.	
Sol-gel synthesis (for one sample)	500	600	750	
Hydro-thermal Synthesis (for one sample)	500	600	750	
Co-precipitation method (for one sample)	500	600	750	
Green synthesis of nanomaterials (for one sample)	500	600	750	
Materials Processing: Annealing of oxide up to 1200 K for 6 h	300	400	600	
Materials Processing: Temperature Quenching up to 1200 K (in air)	400	500	700	
Oxide layer deposition by spin coating	300	400	600	

#### Part B : Characterisation Facilities

Characterisation Type Scho		CONCESSIONAL CHARGES			
		Students and Scholars	Scientists and Faculties from other institutions	Industry	
		Amount in Indian Rs.	Amount in Indian Rs.	Amount in Rs.	
UV-Visible Spectrom- eter (2600, Shimadzu)	Liquid samples - % of absorption / Transmission	200	300	500	
	Liquid samples - Photometric method – concentration of unknown samples	200	300	500	

Characterisation Type		CONCESSIONAL CHARGES			
		Students and Scholars	Scientists and Faculties from other institutions	Industry	
		Amount in Indian Rs.	Amount in Indian Rs.	Amount in Rs.	
Fourier Transform Infra-red	Conventional method (solid / liquid samples)	300	400	600	
spectrometer FTIR	ATR mode (thin films/ solid/liquid samples)	300	400	600	
Atomic Ford	probe Microscopy ce Microscope (AFM) ic images on a planar shed surfaces	1800	2000	2500	
Flactor	Potentiostat measurements CV, I vs E measurements	200	300	400	
Electro chemical Workstation	Galvanostat measurements V vs Time	200	300	400	
	Impedance measurements	200	300	400	

Part C : Skill based Training (Tutorials and Lab work) – Participation and Merit Certificates will be issued by the authorities)

Synthesis of Nanomaterials by chemical methods and materials processing (for one week – Three working days)	Training Scheme	Students and Scholars	Scientists and Faculties from other institutions	Industry
	Batch 01 : In the month of May	750	1000	1200
	Batch 02 : In the month of December	750	1000	1200
Characterisation of Nanomaterials (Three working Days)	UV-Vis Spectroscopy		1200	1500
	Fourier Transform Infrared Spectroscopy (FTIR)	1000		
	Scanning Probe Microscopy – Atomic Force Microscope)			
Characterisation of solid surfaces – (Two working days)	Electrochemistry – principles and practice	500	750	1000





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