PSG INSTITUTE OF ADVANCED STUDIES, COIMBATORE - 641 004

REVISED ANALYSIS CHARGES FOR TESTING AND CONSULTANCY
(With effect from 1.6.2023)

(All rates are exclusive of service tax, 18% GST will be applicable)

- **High Resolution Transmission Electron Microscope (HRTEM), (JEOL JEM 2100, Per Sample)**

Faculty-in-charge: Prof. Anuradha Ashok

User / Analysis	Internal (PSG Institutions) (INR)	External Colleges & Universities (INR)	Industry (INR)
HR-TEM (Without EDS)	650	1,650	3,330
HR-TEM (With EDS)	938	2,500	5,000

- **TEM specimen Preparation (Per Sample)**

Faculty-in-charge: Prof. Anuradha Ashok

Sample type		Internal (PSG Institutions (INR)	External Colleges & Universities (INR)	Industry (INR)
Powder type	Using Cu grid with carbon coating	260	500	1,500
	Using Cu grid with holey C film	350	750	2,500
Metals, Ceramics, Thin film surface etc. (lesser than 100 micron thickness)		500	1,500	3,000
Metals and ceramics Thin film surface etc. (above 100 micron thickness)		1,500	4,500	13,500

- **SEM & EDS Analysis (Carl ZEISS EVO 18- Germany, Per Sample)**

Faculty-in-charge: Prof. Anuradha Ashok

Analysis		Internal (PSG Institutions (INR)	External Colleges & Universities (INR)	Industry (INR)
Coating		100	250	500
SEM Analysis		500	750	1,500
EDS	Spectrum only (No image)	100	250	750
	Point analysis	200	400	1,000
	Line Scanning	200	250	750
	Elemental mapping	200	500	1,500
One Slot for 45 Minutes*		1,500	2,500	5,000

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- **X-Ray diffractometer (XRD) Analysis (Empyrean, Malvern Panalytical, Per sample)**

Faculty-in-charge: Prof. Anuradha Ashok

Analyzing mode	Internal (PSG Institutions (INR)	External Colleges & Universities (INR)	Industry (INR)
Powder/Thin Film (Normal)	200	300	500
Slow scan(Both sample)	300	400	800
GIXRD	400	500	1,000
Peak fitting/Matching	25/PDF	50/PDF	100/PDF

- **Multimode Scanning Probe Microscopy (Multimode AFM/STM), (NTMDT, Per Sample)**

Faculty-in-charge: Prof. P. Biji

Modes	Internal (PSG Institutions) (INR)	External Colleges & Universities (INR)	Industry (INR)
Atomic Force Microscopy (AFM)	600	1,600	3,200
Lateral Force Microscopy (LFM)	600	1,800	3,600
Spreading Resistance Imaging (SRI)	600	1,800	3,600
Force Modulation mode	600	1,700	3,400
Phase imaging	600	1,700	3,400
Adhesion Force Imaging	500	1,400	2,800
Kelvin Probe Microscopy	700	2,500	5,000
Heating Stage operations	700	2,500	5,000
Nanoindentation	700	2,500	5,000
Liquid stage Operations	700	2,500	5,000
In Vacuum condition	700	3,000	6,000
Scanning Tunneling Microscopy	700	2,500	5,000
Electrochemical AFM/STM	1,100	3,000	6,000
Nanolithography	700	2,500	5,000

- **Confocal Raman/AFM Microscopy (WiTec Alpha 300, Per sample)**

Faculty-in-charge: Prof. P. Biji

Modes	Internal (PSG Institutions) (INR)	External Colleges & Universities (INR)	Industry (INR)
Raman spectra	200	400	800
Raman spectra with imaging	600	1,200	3,000
Raman with AFM imaging	1,100	3,250	6,000

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- **BET Surface Area Analysis (Autosorb IQ-MP series (Single station)(Per sample)**

Faculty-in-charge: Prof. P. Biji

Equipment	Internal		External Colleges & Universities (INR)	Industry (INR)
	(PSG IAS) (INR)	(PSG Institutions) (INR)		
BET	500	1,600	3,200	6,500

- **Functional Materials Laboratory Facilities**

Faculty-in-charge: Prof. Anuradha Ashok

Facility	Internal (PSG Institutions) (INR)	External Colleges & Universities (INR)	Industry (INR)
Room temperature Simultaneous Seebeck and electrical conductivity measurements	1,000	1,500	2,500
High temperature Simultaneous Seebeck and electrical conductivity measurements	1000 + 1000 (every hour)	1,500 + 1,000 (every hour)	2500 + 1000 (every hour)
Hydraulic press	100	250	350
Muffle furnace (Per slot)	250	450	800
Tubular furnace (Per slot)	300	600	1,000
TG-DSC analysis	500 (till 600 ^{o}C) 750 (till1200^{o}C)	750 (till 600 ^{o}C) 1,250 (till1200^{o}C)	1,250 (till 600 ^{o}C) 2,000 (till1200^{o}C)
Selenization chamber (Per slot)	600	1,000	1,500
Room temperature Hall measurement	250/-	500/-	2,000
Temperature dependent measurement Hall measurement	250 + 250 (for every 50 degree Celsius)	500 + 500 (for every 100 degree Celsius)	1,000 + 800 (for every 50 degree Celsius)

- **Nanosensor Laboratory Facilities**

Faculty-in-charge: Prof. P. Biji

Equipments	Internal (PSG Institutions) (INR)	External Colleges & Universities (INR)	Industry (INR)
DC magnetron Sputtering	3,000	6,000	12,000
DC/RF Co-Sputtering	6,000	12,000	18,000

Spin Coating unit	200	400	800
Gas sensor test station	8,000	16,000	24,000
Langmuir-Blodgett Unit	2,000	4,000	12,000
Thermal CVD	1,500	3,000	9,000
Ultrasonic Probe sonicator	300	600	900
Electrochemical workstation (EC Sensor testing)	2,000	4,000	8,000
Digital multimeter (Keithley & Agilent)	1,000	2,000	3,000
Laser Engraving and Cutting Machine	1,000	2,000	6,000

- **Self-cleaning coatings Laboratory Facilities**

Faculty-in-charge: Prof. P. Biji

Equipment	**Internal (PSG Institutions) (INR)**	**External Colleges & Universities (INR)**	**Industry (INR)**
Contact Angle Measurement	200	400	1,000
Motorized Test Stand (Tape peel off testing / Compression test)	500	1,000	3,000
Environmental Chamber	1,000	2,000	6,000
Pencil Hardness Tester	200	400	1,000
Multifinger scratch tester	500	1,000	3,000
Oscillating sand abrasion tester	1,000	2,000	6,000
Falling sand abrasion tester	1,000	2,000	6,000
Bar coater	500	1,000	2,000

- **Nanobiotechnology Laboratory Facilities**

Faculty-in-charge: Prof. R. Selvakumar

<table>
<tr><th rowspan="2">Instrument</th><th colspan="3" rowspan="2">Specification</th><th>Internal (PSG Institutions</th><th>External Colleges & Universities</th><th>Industry</th></tr>
<tr><th>(INR)</th><th>(INR)</th><th>(INR)</th></tr>
<tr><td rowspan="2">Antibacterial Activity</td><td rowspan="2">Gram Positive E. coli &</td><td>One Organism</td><td rowspan="2">Duplicates per Sample</td><td>200</td><td>250</td><td>500</td></tr>
<tr><td>Two Organism</td><td>400</td><td>500</td><td>1,000</td></tr>
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	Gram Negative S. aureus	One Organism	Triplicates per sample	250	350	700
		Two Organism		500	700	1400
*Ultra-centrifuge	Optima XPN 100	100 Ti		1,500 /hr	2,000 /hr	4,000 /hr
		70 Ti		1,125 /hr	1,500 /hr	3,000 /hr
		SW 41 Ti		1,125 /hr	1,500 /hr	3,000 /hr
Phase Contrast	Nikon Upright Microscope Eclipse Ni - U			750 /hr	1,000 /hr	2,000 /hr
Fluorescence Microscope				800 /hr	1,075 /hr	2,150 /hr
Ion Chromato-graphy	(883 Basic IC Plus) & Metrohm AG 9100 Herisau, Switzerland	#Anion Column		200	250	300
		Fluoride		150	200	250
		Chloride		150	200	250
		Nitrite		150	200	250
		Bromide		150	200	250
		Nitrate		150	200	250
		Phosphate		150	200	250
		Sulphate		150	200	250
		#Cation Column		200	250	300
		Lithium		150	200	250
		Sodium		150	200	250
		Ammonium		150	200	250
		Potassium		150	200	250
		#Nucleosile column		200	250	300
		Magnesium		150	200	250
		Calcium		150	200	250
		Strontium		150	200	250
		Nickel		150	200	250
		Zinc		150	200	250
General Water parameters	Eutech Instruments	pH		75	100	150
		Total Dissolved Solids		100	150	200
		Salinity		100	150	200
		Resistivity		100	150	200
		Conductivity		100	150	200
Dynamic Light Scattering (DLS)	Malvern Panalytical Zetasizer-ZS	Particle Size analyser		250	350	800
		Zeta potential		350	500	1,200
		Particle Size analyser + Zeta potential		500	700	1,800
ICP-OES	Agilent 5110	Standard calibration charges		1,500	2,500	4,000
		Single element detection		150	200	400
		Multi element detection		250	350	700

Microwave Digester	Multiwave GO	Sample digestion using microwave digester	200	300	600
MP-AES	Agilent 4210	Standard calibration charges	1,000	2,000	3,000
		Single element detection	100	150	300
		Multi element detection	150	250	450
Photoluminescence Spectroscopy	Shimadzu RF-5301PC	Solution/powder/thin films	350 /hr	500 /hr	1,000 /hr
UV-Visible Spectroscopy	Shimadzu UV-1800	Solution/thin film	100	150	200

- **Nanostructured Surface & Thin Films Laboratory Facilities**

Faculty in-charge: Dr. B. Geetha Priyadarshini

Facility	Internal (PSG Institutions (INR)	External Colleges & Universities (INR)	Industry (INR)
Smartcoat RF/DC Sputtering Equipment (/Deposition)	2,200	3,600	6,300
Polarizing Light Microscope (/Sample)	300	650	1,300
Micro hardness tester (/Slot)	550	1,100	2,200
Planetary Ball Mill (/Slot)	900	1,500	2,700
Surface Profilometer (/Slot)	550	1,100	2,200
Keithley Multimeter (/Slot)	200	550	1,100

- **Electrochemical Energy Laboratory Facilities**

Faculty-in-charge: Dr. D. Gnanaprakash

Testing	Internal (PSG Institutions (INR)	External Colleges & Universities (INR)	Industry (INR)
FTIR	150	300	500
Electrochemical Analysis	400	800	1,200
Coating Charges (if needed)	100	250	250

- **Clean room Facilities**

Faculty-in-charge: Dr. S. Parthiban, Dr. D. Geetha Priyadharsini

Type of Deposition/Patterning		Internal (PSG Institutions (INR)	External Colleges & Universities (INR)	Industry (INR)
Multi-source physical vapour deposition (MS-PVD)	Single deposition	12,000	14,000	18,000
	Co-deposition	13,000	15,000	20,000

Mask-less direct write lithography	Single layer	1,500	2,000	2,500
	Additional layer (per layer)	500		
	Mask designing (per layer)	100		
CV-IV analyser		500	1,000	2,000
ICP-CVD/Reactive Ion Etching (SiO_2, Si_xN_y, SiO_xN_y, SiC, α-Si) Single Deposition		15,000	18,000	20,000
RF magnetron sputtering – ATS 500 (Single deposition)		12,000	14,000	18,000