National Institute of Technology, Tiruchirappalli-620015
Office of the Dean R&C

Ref No: NITT/R&C/Consultancy Charges/2018 Date: 02.11.2018

Submitted to The Director:

Sub: Consultancy charges- CEESAT, MME & CECASE Dept. –Reg

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With reference to our visit to Energy and Environment, Metallurgical & Materials Engineering departments and Centre of excellence in corrosion and surface engineering (CECASE) followed by the meeting held in those departments pertaining to the consultancy works that could be carried out based on the instrumentation facilities available in the departments, the office of Dean(R&C) consolidated the data provided by those departments regarding the consultancy charges, user forms and other necessary details. This is submitted for your kind perusal.

In this regard, your approval is requested for the same to be uploaded in the institute website to facilitate the external users and permission may be accorded for the concerned departments to proceed the consultancy works based on this approval.

R. Nagalakshmi
ASSOCIATE DEAN(R&C)

2/11/18

DEAN(R&C)

Approved
2/11/18

Thanks! May do for other depts also.

Department of Metallurgical and Materials Engineering
National Institute of Technology, Tiruchirappalli - 620015

S.No.	Name of the Equipment	Tests/Experiments can be performed	Charges (in Rs.)			Faculty In-charge
			Internal	External (GST extra)		
				Academia	Industry	
1.	Friction Stir Welding	Joining of sheets and plates (charges for max length of 150 mm)	500	1000	2000	Dr. S. Muthukumaran smuthu@nitt.edu
2.	Stereo Microscope	Surface morphology (charges per sample)	250	500	1000	
3.	Microhardness testing	Hardness measurement (charges per indentation)	25	50	100	
4.	Microscope	Microstructure (charges per sample)	200	500	500	Dr. S. P. Kumaresh Babu babu@nitt.edu
5.	Micro-Hardness test	Hardness measurement (charges per sample)	200	500	500	
6.	Abrasive Cutting machine	Sample preparation (charges per cut)	30	50	50	
7.	Electrochemical Corrosion testing	Potentiodynamic polarization and impedance analysis (charges per sample)	200	500	500	
8.	Salt spray test	Corrosion analysis (charges per 24 hours)	500	2000	2000	
9.	Thermal Analyzer	Calorimetry/Thermogravimetry (charges per sample)	500	2000	2000	
10.	Water jet Erosion tester	Corrosion analysis (charges per sample)	500	2000	2000	
11.	Magnesium-stir casting furnace	Magnesium melting and casting (charges per sample)	1000	2000	2000	

12.	Aluminium squeeze casting furnace	Squeeze casting of aluminium (charges per sample)	1000	2000	2000	Dr. S. P. Kumaresh Babu babu@nitt.edu
13.	Heat treatment furnace	Heat treatment (charges per hour)	50	100	100	
14.	Stress corrosion cracking	Stress corrosion analysis (charges per sample/day)	50	200	200	
15.	Diamond cutter	Slow speed sectioning of specimen (charges per sample/day)	100	300	300	
16.	Ball milling	Particle size reduction (charges per hour)	200	500	500	
17.	Electrolyte etching machine	Electrolytic etching of specimen (charges per sample)	100	300	300	
18.	Spark plasma sintering (upto 1200°C) (DST)	Sintering of powder compacts (Excluding Die charge per sample) (Including Die charges per sample)	2000 3500	4000 5500	7500 10,000	Dr. S. Kumaran kumara@nitt.edu
19.	Seebeck coefficient and electrical resistance system (upto 700°C) (MHRD)	Electrical Resistance analysis (charges per sample)	2000	3000	5000	
20.	Tensile / Compression /Bend test (ARDB &ISRO)	Strength of the material (charges per sample)	150	300	1000	
21.	Vickers hardness Test (DST)	Hardness measurement (charges per sample – 3 indentations)	100	200	1000	
22.	Microscope (ARDB)	Microstructure (charges per sample – 3 images)	100	200	1000	
23.	High Energy ball milling (DST & DRDO)	Particle size reduction (charges per hour – SS medium) (charges per hour – WC medium)	200 300	500 750	750 1000	
24.	Magnesium casting Facility (ARDB)	Magnesium melting and casting (charges per casting)	2000	3000	Consultancy#	

25.	Arc Melting Facility (DST)	Melting of alloys (charges per sample)	500	1000	Consultancy#	Dr. S. Kumaran kumara@nitt.edu
26.	Density Measurement Kit (DST)	Density of sintered compacts (charges per sample)	100	200	500	
27.	Apparent / Tap density / Flow rate measurements (DRDO)	Metal powder characteristics (charges per sample/trail)	50	100	500	
28.	Support for Powder Metallurgy /Casting / ECAP	Projects (Compaction + Sintering) for max. 10 samples	---	10,000	Consultancy#	
29.	Tensile test – 8 – 16 mm rod	Strength of the material (charges per sample)	1000	1000	2000	Dr. B. Ravisankar brs@nitt.edu
30.	Tensile test – above 16 mm	Strength of the material (charges per sample)	1250	1250	3000	
31.	Tensometer (without graph)	Strength of the material (charges per sample)	250	250	500	
32.	Tensometer (with graph)	Strength of the material (charges per sample)	500	500	1000	
33.	Hardness (3 indentations)	Hardness (charges per sample)	250	250	500	
34.	Impact (Room Temperature)	Impact strength (charges per sample)	250	250	500	
35.	Impact (below °C temperature)	Impact strength (charges per sample)	500	500	1000	
36.	Optical microstructure(without photo)	Microstructure (charges per sample)	300	300	600	
37.	Optical microstructure(with photo in CD)	Microstructure (charges per sample)	600	600	1200	
38.	ECAP – facilities - RT	Severe plastic deformation (charges per sample)	500	500	1000	
39.	ECAP – facilities – high temperatures	Severe plastic deformation (charges per sample)	1000	1000	2000	
40.	Diffusion Bonding of samples below 500^{0}C	Diffusion joining of materials (charges per sample)	1000	1000	3000	

41.	Diffusion Bonding of samples above 500^{0}C	Diffusion joining of materials (charges per sample)	2000	2000	5000	Dr. B. Ravisankar brs@nitt.edu
42.	DEFORM simulation software	Forming simulation studies (charges per day)	500	500	2000	
43.	Formability testing	Formability test (charges per sample)	500	500	1000	
44.	Modulus measurement – using NDT	Youngs modulus measurement (charges per sample)	250	250	500	
45.	Fatigue testing machine (Flat plate bending)	Strength under cyclic loading (charges per sample)	500	500	1000	
46.	FESEM *	Field Emission SEM (charges per sample)	2000	2500	4000	Dr. N. Ramesh Babu nrb@nitt.edu
47.	FESEM+EDS *	Field Emission SEM+EDS (charges per sample)	2500	3000	5000	
48.	FESEM+WDS*	Field Emission SEM+WDS (charges per sample)	4000	5000	8000	
49.	EBSD*	EBSD (max. 2 hours)	4000	5000	8000	
50.	SEM*	SEM (charges per sample)	800	1000	1500	
51.	SEM+EDS*	SEM+EDS (charges per sample)	1500	2000	3000	
52.	XRD*	XRD (charges per sample)	300	600	1200	
53.	Optical Profilometer*	Surface morphology/Roughness (charges per sample)	1000	2000	3000	
54.	Scratch Testing Unit*	Scratch resistance (charges per sample)	2500	5000	8000	
55.	Corrosion Testing (PDP)*	Potentiodynamic polarization (charges per sample)	500	1000	2000	
56.	Corrosion Testing (EIS)*	Impedance analysis (charges per sample)	1000	2000	4000	

57.	Contact angle measurement*	Contact angle measurement (charges per sample)	500	1000	2000	Dr. N. Ramesh Babu nrb@nitt.edu
58.	PEO coating unit (DC)*	PEO coating unit (DC) (charges per sample)	500	1000	2000	
59.	PEO coating unit (AC)*	PEO coating unit (AC) (charges per sample)	1000	1500	3000	
60.	Mechanochemical synthesis/ Ball milling (dry milling only)	Ceramics only (charges per hour per sample)	500	1000	2000	
61.	Indentation fracture toughness test/micro-hardness	Ceramics-non metallic (charges per sample)	500	1000	2000	
62.	Electrochemical corrosion testing	Tafel (charges per sample)	250	400	800	Dr. V. Muthupandi vmuthu@nitt.edu
63.	Electrochemical corrosion testing	Sensitization behaviour (charges per sample)	500	800	1500	
64.	Electrochemical corrosion testing (EIS)	Impedance analysis (charges per sample)	1000	2000	3000	
65.	Miniature Tensile Test facility	Strength of the material (charges per sample)	300	500	1000	Dr. K. Sivaprasad ksp@nitt.edu
66.	Micro arc oxidation facility	PEO coating unit (DC) (charges per sample)	600	1200	2500	
67.	High Energy Ball Mill	Particle size reduction (charges per hour)	200	500	500	
68.	Digital Balance with density kit	Density of samples (charges per sample)	100	200	500	
69.	High temperature muffle furnace (up to 1400degC)	Heat treatment (charges per hour)	200	300	500	
70.	Muffle furnace (up to 1200degC)	Heat treatment (charges per hour)	50	200	300	
71.	Hot Compaction Facility	Hot compaction (Excluding Die charge per sample) (Including Die charges per sample)	1000 2000	2000 3000	4000 6000	

72.	Pin on disc wear testing machine	Two-body wear (per sample)	500	1000	2000	
73.	SMAW	Up to 5 mm thick plates	100	200	500	Dr. S. Jerome jerome@nitt.edu
74.	TIG Welding	Up to 2 mm thick plate Autogenous welding	100	200	500	
75.	TIG Welding	Up to 5 mm thick plate Autogenous	200	500	1000	
76.	TIG Welding with Filler addition	Up to 5 mm thick plates	300	750	2000	
77.	CMT welding	Up to 2 mm thick plate	300	750	2000	
78.	Plasma Welding	Up to 10 mm thick plate	500	1000	4000	

#-Charges upon the technical work

*Charges inclusive of GST (Sl.No. 46-61; for external users); FESEM charges (Sl. No. 46-49) in Table are for solid inorganic samples. For polymeric materials and for powders Rs 1500 charges extra;

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19.11.2018