Central Instrument Facility, IIT (BHU), Varanasi-221 005

Requisition Form of NMTS (Nano-Indentation)

☐ **IIT(BHU) User** ☐ **BHU User** ☐ **External Academic/R&D User** ☐ **Industry User** **Date: …….**

USER INFORMATION: **Form No.:…….**

Name of Indenter	
Name of Supervisor/Head	
Nature of Work: UG/PG/IDD/PhD. /PDF/Project/ Consultancy/ Industry	
Employee ID	
Name and Address of Department/School/Organization	
Contact number	
Email Address	

Sample Information:

No. of Sample: …….

Sample Type (Metallic/Ceramic/Polymer/Bio/Thin Film): **…….**

The sample size should be within 10 × 10 × 5mm (L × W × H) (Yes/No) **…….**

Measurement to be performed

1. **Indentation** ☐
2. **Property mapping** ☐
3. **Nano wear** ☐
4. **DMA** ☐

A. For Nanoindentation:		**B. For Property Mapping**
Load (<10 mN)		
Loading/Unloading rate(μN/s)		
Location of indent in case of multiphase materials		
Roughness of all samples (<200 nm) mandatory		
SPM imaging required (Yes/No)		
Total number of indents		
C. For Wear test: (Low load <10mN)		
Load (100 nN – 1 mN)		
Wear Track Size (< 40 μm x 40 μm)		
Sample roughness (<200 nm) mandatory		
SPM imaging required (Yes/No)		
Total number of wear test		

All users are required to acknowledge the use of CIF equipment / CIF facility and the person(s) providing the technical help in all their research publications/ articles resulting from the use of CIF. A copy of such publication must be submitted to CIF for reference and record. **Email: office.cif@itbhu.ac.in**

D. For Nano Dynamic Mechanical Analysis:	
For Dynamic Load Test: (Fixed frequency)	
i) Frequency of test (< 300 Hz)	
ii) Range of load (< 5 mN)	
For Dynamic Frequency Test (Frequency sweep):	
i) Applied load (< 5 mN)	
ii) Range of frequency (< 300 Hz)	
Specify how many tests per sample for DMA	

Note:

- Nano-indentation results are highly dependent on surface preparation. For accurate measurements, the sample surface should be **flat** and polished to a mirror-like finish. It is highly advisable to perform final polishing using electro-polishing for conductive samples, and colloidal silica polishing for non-conductive ones.
- The Sample **should be** mounted on a steel disc with the help of Feviquik for strong adhesion.

Pl. Specify if the sample is *Toxic/ Hazardous/ Explosive/* etc.: .....

Do you want to present during the characterization or not? .....

Sample required to be preserved or not: Yes/ No (If NO mode of disposal): .....

***Signature & Remark of Operator:* .....**

***Date & Time*.....**

For Internal User Only:	**External User: Payment mode NEFT/RTGS/Net Banking etc. (GST 18% extra applicable)**	
Total Charges **Rs.**	Details of the Account Holder	**Registrar, IIT(BHU) Sponsored Project**
A. Research Support Grant / CPDA:	Bank Name & Branch	**State Bank of India (IIT-BHU Branch)**
B. Project Contingency (Project code):	IFSC Code:	**SBIN0011445**
	Account No.:	**32681045234**
C. Department/School Operating Grant/Others:	Transaction Amount:	
	Transaction/UTR No:	
Prof. In-charge, CIF **Signature & seal of the Supervisor/Head** **Signature of User/Indenter**		

FOR USE IN FINANCE OFFICE

Expenditure may be debit/credit to:

Major Head: Sponsored Project Current Account (32681045234)
Minor Sub Head: **R&D/CIF/25-26/781**

PASSED FOR PAYMENT/ ADJUSTMENT

For Rupees ……..…….....

Asst. **S.O.** **A.R.** **D.R.**

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