**University of Engineering and Technology, Lahore Pakistan**

**Centre for Nanotechnology and Advanced Materials Research (CNAMR)**

**Department of Physics**

Performa for Nanoindentation

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Designation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Supervisor (if any): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Institute/Department: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project title (if any): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cell number & email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

No. of samples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Brief description: what do you want to conduct on Nanoindenter? (mandatory):

* Any specific test type\*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Maximum load/maximum displacement\*\*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Loading rate, Loading type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* For thin films/coatings: Coating thickness\_\_\_\_\_\_\_\_\_\_\_\_\_ and Surface Roughness\_\_\_\_\_\_\_\_\_
* Any other specification/requirement: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*quasi static indentation, dynamic indentation, nanowear, etc.

\*\*maximum loading limit on low load transducer is 10 mN while it is 10N on high load transducer.

**Sample requirements:** i) Samples surface should be plane parallel (flat/polished from both sides).

 ii) Powdered samples cannot be used/tested.

**Sample dimensions:** i) sample thickness must not exceed 20 mm.

 ii) Square, disc or irregular shaped specimen, where one dimension (length or

width) is exceeding 1 cm must be discussed prior to testing.

**Deposit Details:** Habib Bank Ltd (Engineering University Lahore Branch)

**Title:** ‘’UET Lahore Centre for Nanotechnology’’ **Account No:** 01287903194101

**Paid challan form No. (Attach a copy of the paid challan form)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Applicant’s signature Supervisor’s (if any) (Signature and stamp)**

**Director CNAMR**

**Charges per sample**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No.** | **Perspective Clients** | **Indentation** | **Indentation + SPM** | **Nanowear** |
| 1 | UET Lahore and allied campuses | Rs. 500 | Rs. 1000 | Rs. 1000 |
| 2 | Educational institutes | Rs. 3000 | Rs. 4000 | Rs. 4000 |
| 3 | Commercial samples (industries) | Rs. 5000 | Rs. 6500 | Rs. 6500 |

* Rs. 1000 will be charged for sample preparation
* The rates for nanoindentation with other special requirements will be decided by the Committee/Director.