

# CENTRAL INSTRUMENTATION LABORATORY

PANJAB UNIVERSITY, CHANDIGARH-160014

## REQUISITION FORM FOR High Resolution Transmission Electron Microscope (HRTEM)

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**(Payment should be credit in: Director CIL, A/c No. 10444977486.IFSC: SBIN0000742)**

### User Information

**User Type:** P U Campus & its Regional Centers/Other Educational Institutions /R&DLabs/ Industries (Please tick as applicable)

**Name:**

**Designation:**

**Supervisor Name:**

**Research Area:**

**Department & University/ Institution/College:**

**Billing Name & Address:**

**Pin**

**State**

**Phone/ Mobile Number:**

**E-mail Address:**

**GST No (\*optional)**

### Sample Details

**Kindly read and follow the instructions before submitting the samples**

**(INCOMPLETE FORM WILL NOT BE ACCEPTED)**

S.No	Sample Id	Nature of Sample (Nano-wire/Nanoparticle/Sheet/Rod etc.)	Broad constituent of sample (composite, Nanoparticles, oxides, CNT etc. Need to specify)	Analysis mode you need: HRTEM SAED TEM-EDS/Mapping STEM-BF/DF	Particle size range of interest (nm or micron)	Magnetic/Non-Magnetic/Emulsion/Biological/Polymer	Toxic/Non Toxic/Hazardous
1							
2							
3							
4							
5							

Preferred solvent :  purified water  Ethanol

Define Ultra-sonication time required for the dispersion time of sample in Min:

### **Analysis Mode:**

HRTEM  SAED  TEM-EDS  TEM-Mapping  STEM-BF/DF

**Magnetic samples/ unstable samples under vacuum are not accepted for analysis in HRTEM instrument.**

Amount paid: .....UTR/NEFT No..... Dated: .....

### **Recommendation from Head of Department**

The above samples may be accepted on the behalf of our department/ Institution

Signature of user

Supervisor's Signature

Signature of Head of Department

With official Seal

(\*print next page also)

Payment received vide receipt no. ....cash.....Dated.....Amount: .....

JobNo./RefNo. \_\_\_\_\_

**IMPORTANT: - As per the recent decision of FMC committee it is mandatory for user of SAIF/CIL facility to acknowledge the facility in their research work and communicate the same to SAIF Chandigarh for onward communication to DST, New Delhi. This condition is necessary for availing 80% discount for educational Institutes.**

Mode of Analysis	Internal	External	R&D	Industry
i) HRTEM	1000	2000+18% G.S.T	6000+18%G.S.T	10000+18% G.S.T
ii)SAED (HRTM Analysis is Compulsory )	150	300+18% G.S.T	900+18% G.S.T	1500+18% G.S.T
iii)EDS (HRTM Analysis is Compulsory )	500	1000+18% G.S.T	3000+18% G.S.T	5000+18% G.S.T
iv)Mapping (HRTM Analysis is Compulsory )	750	1500+18% G.S.T	4500+18% G.S.T	7500+18% G.S.T
v)STEM (BF/DF) (HRTM Analysis is Compulsory )	400	800+18% G.S.T	2400+18% G.S.T	4000+18% G.S.T

HRTEM (Per Sample)	SAED (Per Sample)	TEM- /Mapping (per Sample)	EDS	STEM-BF/DF (per Sample)
Max.5 Images will be given per sample. Rs.50 per image will be charged for extra image.( Max 3 images given)	Single Diffraction Pattern	Single spectrum/ Mapping		4 images = 2 Bright Field + 2 Dark Field

#### HRTEM

- If you want to stain your sample (positive or negative stain), please bring prepared stain at appropriate pH and concentration with proper filtration.
- Sample prepared by green synthesis must be washed (Centrifuged) & sonicated at appropriate conditions.
- If your sample size is below 10 nm, it should bring in pellet form to lab after proper centrifugation and sonication.
- Presence of user during imaging is appreciable.
- If sample received by post for HR-TEM analysis, results will be acceptable to user irrespective information provided.
- It is duty of user to ensure the quality and specific parameters of sample related to TEM Analysis.
- Samples must be prepared/submitted at least one day advance.

#### Instruction for HRTEM:

Per sample processing time is 1 hour maximum (Including sample loading & unloading ).

If you need extra analysis on same sample, the instrument time will be charged as one/more sample(s).

#### Instruction for EDS and mapping analysis:

Please specify the probable elements which can be detected EDS/Mapping mode.

#### Note:

Microscopy will be done only if the sample has been characterized earlier by other techniques such as XRD, SEM, XPS, TG etc. 200kV UHRTEM instrument is not a test equipment for preliminary investigation of sample. Please ensure this before bringing sample to lab.

- If user want any mode analysis namely SAED, MAPPING/EDS/STEM-BF/DF they have todo TEM analysis also.