

Department of Nanotechnology
North Eastern Hill University, Shillong-22

NOTIFICATION

No F. No. 100/NT/PhD-program/2013 -31

Date: 30/6/2025.

For Ph.D. Entrance Examination in Nanotechnology 2025

The admission/selection in the Ph.D program for a limited number of seats will be done on the basis of written test of one hour duration (total of 70 marks) followed by a personal interview (PI) (total of 30 mark). Merit list shall be prepared as per NEHU rules: RC-23 clause 2(vi).

The decision of the admission committee in all matters shall be binding and final. Some important dates regarding admission are given herewith:

1. **Date of written test:** 15th July, 2025 (Tuesday)
2. **Verification of documents:** 15th July, 2025 (Tuesday) at 9:30am
3. **Mode of Examination:** Physical mode only
4. **Time of written test:** 15th July, 2025 (Tuesday) 11.00 am to 12.00 pm
5. **Date of personnel interview:** 15th July, 2025 (Tuesday) (*only qualified in written test will call for interview*)
6. **Time of personnel interview:** 2:00 pm onwards.

***All dates and timing are tentative only.

Note: 1. Only qualified in written test will be call for interview.
2. Those candidate qualified both written and interview will be call for admission for Ph.D. program 2025-26.



Head

Chairman, Department of Nanotechnology

Admission Committee (Ph.D.), Department of Nanotechnology,
North Eastern Hill University,
Umshing-Mawkyiroh, Shillong-793022

विभागाध्यक्ष
नैनो प्रौद्योगिकी विभाग
पूर्वोत्तर पर्वतीय विश्वविद्यालय
उमशिंग-मौकिरोह, शिलांग-793022

Syllabus for Ph.D. Nanotechnology Entrance Examination

1. Structure of Solids, Bonding in solids, Band Theory of Solids


Relation Between Lattice Constant and Density, Hexagonal Close Packed(hcp) Structure, Commonly Occurring Crystal Structures, Reciprocal Lattice and Brillouin Zones, Miller Indices, Polymorphism, Grains, Grain Boundaries and Grain Size Determination, Nanostructured Materials, Quasicrystals, Metallic Glasses, Diffraction Techniques, Bonding in condensed Matter, Pauli's Principle, Covalent Bond, Ionic Bond, Born-Haber Cycle, Metallic Bonding, van der Waals Bonding, Mixed Bonding, Correlation between Cohesive Energy, Bulk Modulus and Melting Points, Kronig-Penney One Dimensional Model, Origin of the Energy Bands, Concept of the Hole, Limitations of the Kronig-Penney Model and Application of the Band Structure Results.

2. Nanobiotechnology

Biological perspectives of nanomaterials – impact of nanomaterials in biological processes. Impact of nanomaterials in food processing, food safety and biosecurity, toxin and contaminant detection, Smart packaging.

3. Numerical Mathematics:

Solution of linear and non linear equations, least square method, numerical solution of initial value problems in ordinary differential equations.


Sd/

Head

Department of Nanotechnology

Chairman, North-Eastern Hill University

Admission Committee (Ph.D.), Department of Nanotechnology.

विभागाध्यक्ष

नैनो प्रौद्योगिकी विभाग

पूर्वोत्तर पर्वतीय विश्वविद्यालय

उशिंग-मोंकिरोह, शिलांग-793022

Department of Nanotechnology, SOT, NEHU
Provisionally eligible Candidates for PhD Admission

1. Shortlisted for Written Test

SL. No	FORM NUMBER	NAME OF THE APPLICANT
1.	25REG00000014	JUMAN SARMA
2.	25REG000000423	PHAOMEI GAIBISINLU
3.	25REG000000063	LAIOHIKA ROSEN SOHTUN
4.	25REG000000064	IBANSARALANG KHARTHANGMAW
5.	25REG00001179	BARISHISHA THONGNI
6.	25REG00001498	PANKAJ BASUMATARY
7.	25REG000000430	PRAGYANI PATRA
8.	25REG000002186	LUNA DEKA



Head
Department of Nanotechnology
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