

**National Institute of Advanced Manufacturing Technology, Ranchi**  
**Department of Applied Sciences and Humanities**

**Sub:** Summer internship programme in Science (2nd/3rd yr. B.SC; 1st/2nd yr. M.Sc.) and Engineering (3rd/4th year B.Tech./B. E; 1st/2nd yr. M. Tech./M. E) students.

**Objectives:**

To offer opportunities to suitable students to participate in ongoing applied and technology-oriented projects and obtain practical research training experience at **Department of Applied Sciences and Humanities, National Institute of Advanced Manufacturing Technology, Ranchi** in the fields of Mathematics, Materials Physics and Materials Chemistry.

**Available topics for Internship:**

<b>Mathematics</b>	
Dr. Nilima Das	<ol style="list-style-type: none"> <li>1. Numerical analysis</li> <li>2. Variational iteration methods,</li> <li>3. Population balance model</li> <li>4. Semigroup theory</li> </ol>
Dr. Sriparna Chattopadhyay	<p><b>Area of Internship:</b> Algebraic Graph Theory  <b>Prerequisite:</b> Group Theory, Graphs and their basic properties like connectivity, planarity etc.  <b>Aim of the Internship:</b>            One can associate a graph to a group <math>G</math> in many ways, and there are several studies on these graphs like Cayley graphs, power graphs, commuting graphs, coprime graphs etc. We may study various graph parameters like connectivity, planarity, coloring of these graphs by using the associated group theoretic properties of <math>G</math>. Also, it may be interesting to find the structure of these graphs for various classes of groups like cyclic groups, dihedral groups, nilpotent groups etc. The structure may help us to find the relations between these graphs as well as to describe the interplay between the group properties with the graph parameters.</p>
<b>Chemistry</b>	
Dr. H Vignesh Babu	<ol style="list-style-type: none"> <li>1. Nanomaterials for the Removal of Heavy Metal from water</li> <li>2. Natural Coagulants for the reduction of Turbidity from water</li> <li>3. Removal of Heavy Metal from water using Green Materials</li> <li>4. Preparation of polymer-based electrolyte for battery applications</li> </ol>
Dr. Dr. Sumbul Rahman	Heterogeneous catalyst
<b>Physics</b>	
Dr. S R Kumar	<ol style="list-style-type: none"> <li>1. Graphene oxide as an additive: Cement Admixture.</li> <li>2. Graphene nano powder used as a super capacitor.</li> <li>3. Graphene nano powder used as anti-corrosive materials.</li> </ol>
Dr. Arvind Pandey	<ol style="list-style-type: none"> <li>1. Studies of Bi-based oxygen ion conductors.</li> <li>2. Remediation of Heavy metals from water using nanomaterials.</li> </ol>
Dr. Partha Sarathi Mondal	<ol style="list-style-type: none"> <li>1. Solid state refrigeration using electrocaloric effect</li> <li>2. Development nano-porous ceramics for detection ppm level moisture.</li> </ol>

**Period:** 4-6 weeks during summer vacation. Duration: **1<sup>st</sup> June-30 July 2025.**

**Eligibility and application procedure:**

- The student must be pursuing Science (2nd/3rd yr. B.SC; 1st/2nd yr. M.Sc.) and Engineering (3rd/4th year B.Tech./B. E; 1st/2nd yr. M. Tech./M. E) in a recognized University/ Institute /College in the relevant area.
- The student must have adequate theoretical background in relevant area.
- **Biodata (See the ‘SAMPLE BIO-DATA’ format)**
- **Original Recommendation Letter** of the Principal/ Registrar /Head of the Institution/University on the INSTITUTE” s letterhead, mentioning the training programme being applied for and the date & period of the proposed training. [See the ‘SAMPLE REQUEST LETTER’].
- Area(s) in which training is requested must be mentioned. Different areas of ongoing Research work can be viewed on the department website:
- <https://niamt.ac.in/UserView/UserView.aspx?TypeID=1253> .
- The filled in application along the recommendation letter should converted to a pdf document and emailed to [hoddash@niamt.ac.in](mailto:hoddash@niamt.ac.in) only.
- Checklist of documents:
  1. Bio-data
  2. Recommendation of College/Univ Principal/Registrar/HOD on the institute’s letter head.

**When to Apply:**

Final applications must be received at the above given Email address on or before **31<sup>st</sup> May 2025.**

**Fellowship, Training Fees & Accommodation:**

- There are no fees or tuition costs associated with participation in the summer training/project work.
- **No Fellowship** will be provided by NIAMT for the period of Internship.
- Limited provision for accommodation may be available. **ONLY for outstation** candidates **for free**. Food is on payment basis.
- The training period will be 4 weeks (minimum) to 6 weeks (maximum).

### **RECOMENDATION LETTER format**

#### **Instruction to students:**

Submit request letter on the original letterhead of the university/institute where you are enrolled. Scan copy should be sent along with application form and Hardcopy has to be submitted in original after selection.

**To  
The HoD,  
Department of Applied Sciences and Humanities,  
National Institute of Advanced Manufacturing Technology  
Hatia, Ranchi 834003**

#### **Sub: Summer Internship recommendation**

Sir/Madam,

Mr./Ms..... (Roll/Registration No.....) is a Bonafide student of.....  
(Name and Address of the Institute/College) affiliated to ..... (Name of the University)  
and is currently studying in ..... year in the Department of .....of this Institute /College.  
Mr. /Ms..... is studying in our college/department and has good moral character and conduct.

This is to certify that the dissertation is part of his/her course curriculum and will be evaluated by examiners and shall carry the name of the supervising NIAMT faculty on the submitted document. It is our responsibility to protect the confidentiality of the data presented in the dissertation and it shall not be published without the written consent of supervising NIAMT faculty.

The student has been instructed to strictly follow the discipline of your institution. We will take the responsibility for damage (if any) caused to your laboratory's property by negligence of the student. It is understood that the student will receive NO STIPEND from NIAMT for the Internship period.

Thanking you.

Yours Sincerely

(Signature of College Authority)  
(Name in full & Date and Designation) **with Official Stamp**

**BIO-DATA format**

**Application for Summer Internship at NIAMT, Ranchi**

<b>1</b>	<b>Personal Data</b>					
	Name					
	Name and address of the Institute/College/University				College/University Roll/Registration No.	
	Department				Date of Birth (Age)	
	Postal address				Email / Mobile No. <b>(BOTH are Mandatory)</b>	
<b>2</b>	<b>Education (Please attach self-certified photocopies of the marksheets)</b>					
		Name of Institute	Subject(s)	Year	Class	Marks (%)
	10 <sup>th</sup> Standard					
	12 <sup>th</sup> Standard					
	Undergraduate (result up to 5 <sup>th</sup> semester)					
	Postgraduate					
<b>3</b>	<b>Abstract of the proposed project with title (not more than 100 words) MANDATORY</b>					
	Please attach separate sheets with write-up.					
<b>4</b>	<b>List of Professional Courses/ Project/Internship completed earlier, if any</b>					
	Sl. No.	Organisation	Title of the Course/Project			Tenure
<b>5</b>	Do you want accommodation facilities? Yes/No					
<b>6</b>	Choose topics for Internship					
<b>7</b>	Extra Information if any					

The information given above is true to the best of my knowledge. Any deviation from this would be liable to cancellation of my candidature.

**(Signature of the Candidate with date)**