



# SAROJINI NAIDU VANITA PHARMACY MAHA VIDYALAYA (CO-ED)

(Sponsored by the Exhibition Society)  
UGC AUTONOMOUS INSTITUTION

Affiliated to Osmania University, Approved by PCI-New Delhi NBA  
Accredited B. Pharmacy Course, Accredited A+ grade by NAAC

## Report on

## “SKILL DEVELOPMENT PROGRAMME ON PEPTIDE SYNTHESIS”

Organized by  
**Department of Natural Products and Medicinal chemistry,  
CSIR-IICT, HYDERABAD**

**Date:** 23<sup>rd</sup> to 27<sup>th</sup> March 2026

**Time:** 9:00 A.M. to 5:30 P.M.

**Venue:** CSIR. IICT, PS Murthy hall, Main Block.

**Total Number of Participants:** Approximately 21 Students, Faculty and Industry members



**CSIR-INDIAN INSTITUTE OF CHEMICAL TECHNOLOGY**  
(Under Ministry of Science & Technology, Govt. of India)  
Tarnaka - Uppal Road, Hyderabad - 500007, Telangana, India

**SKILL DEVELOPMENT PROGRAM  
ON  
PEPTIDE SYNTHESIS**  
(23<sup>rd</sup>-27<sup>th</sup> March, 2026)



**CSIR Integrated Skill Initiative**  
Organized by  
**Department of Natural Products & Medicinal Chemistry  
CSIR-Indian Institute of chemical Technology, Hyderabad**

**FEATURES**

- Rigorous training by means of Theory & Experimentation
- Lectures from the Peptide experts
- Hands on experience on Peptide Synthesis
- Learning Characterization techniques of Peptides
- Evaluation of knowledge gained through assignments
- Exposure to research areas in the Institute
- Certificate on successful completion of course



**Timings : 900am - 530pm**  
**Batch Size : 20 (Limited seats available)**



**Registration fee**

**Students : INR 3000/- (inclusive GST)**  
**Industry/Faculty : INR 5000/- (inclusive GST)** **Scan here to Register!**

**For Details, Please Contact:**

<b>COURSE CO-ORDINATOR</b> Dr. Debabrata Maity Scientist-D dmaity.iict@csir.res.in	<b>HEAD-DEPT OF NPM</b> Dr. Sandip B. Bharate Scientist-G sbharate.iict@csir.res.in
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Nodal Officer- Skill Development  
CSIR-Indian Institute of Chemical Technology,  
Tarnaka, Uppal Road,  
Hyderabad - 500 007, Telangana, India

sdp@iict.res.in f iictindia  
040-27193146



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A Skill Development Program on *Peptide Synthesis* was jointly organized by the Department of Natural products and Medicinal Chemistry at prestigious CSIR-Indian Institute of Chemical Technology Hyderabad, with the objective of enhancing practical knowledge and technical expertise in modern peptide synthesis techniques. The program aimed to bridge the gap between theoretical understanding and industrial/research applications in peptide chemistry.

The program was efficiently anchored by Dr. Debabrata Maity from the Department of Medicinal Chemistry. The event commenced with a warm and cordial welcome extended to the dignitaries and participants, followed by the formal invitation of the distinguished guests onto the dais.

The dignitaries present on the occasion included Dr. D. Srinivas Reddy, Director of CSIR-Indian Institute of Chemical Technology; Dr. Sandeep B. Bharate, Chief Scientist and Chair of the Department of Natural Products and Medicinal Chemistry; Dr. Nayani Kiranmai, Principal Scientist in Peptide Synthesis; and Dr. Debabrata Maity, who also served as the Coordinator of the peptide synthesis program.

The formal proceedings were conducted in a well-organized manner, reflecting the academic excellence and professionalism of the organizing institution.

## Programme Schedule from 23-03-2026 to 27-03-2026:

Skill Development Program-Peptide Synthesis at CSIR-IICT (23/03/2026-27/03/2026) Under CSIR-Integrated Skill Initiative (ISI)								
Day 1 (23 <sup>rd</sup> March)	10 AM - 11:00 AM  Inaugural Session		11 AM - 11:30 AM  Group Photo & High Tea	11:30 AM - 12:30 PM  Training Details & Interactions with the Participants  Dr. Debabrata Maity (CSIR-IICT)	12:30 PM - 1:45 PM  Lunch	2 PM - 3:30 PM  "Functional Peptide Assemblies with Spatio-Temporal Regulation"  Dr. Sahnawaz Ahmed (NIPER Kolkata)	3:30 PM - 4 PM  Tea	4 PM - 5:30 PM  "Solution-phase synthesis of peptides and peptidomimetics: Development of bioactive peptides for affordable health care"  Dr. Nayani Kiranmai (CSIR-IICT)
Day 2 (24 <sup>th</sup> March)	9 AM -10:30 AM  "Nuclear Magnetic Resonance: A Key Tool in the Structural Elucidation of Peptides"  Dr. Ravi Sankar Ampapathi (CSIR-IICT)	10:30 AM - 11 AM  Tea	11:00 AM -12:30 PM  "Modern Strategies in Peptide Synthesis: From Classical Solution Methods to Sustainable Liquid- and Solid-Phase Technologies"  Dr. Anamika Sharma (University of KwaZulu-Natal)	12:30 PM -1:45 PM  Lunch	1:45 PM-5:30 PM  Practical on "Nuclear Magnetic Resonance: A Key Tool in the Structural Elucidation of Peptides"  Dr. Ravi Sankar Ampapathi (CSIR-IICT)  (3:30 PM - 4 PM Tea Break)			
Day 3 (25 <sup>th</sup> March)	9 AM -10:30 AM  "HPLC Application to Peptide Analysis"  Dr. Debasish Swain (CSIR-IICT)	10:30 AM - 11 AM  Tea	11:00 AM-12:30 PM  "LCMS Application to Peptide Analysis"  Dr. Nagaraju Rajana (CSIR-IICT)	12:30 PM -1:45 PM  Lunch	1:45 PM-5:30 PM  Practical on "HPLC & Mass Analysis of Peptides"  Dr. Nagaraju Rajana (CSIR-IICT)  (3:30-4 PM Tea Break)			
Day 4 (26 <sup>th</sup> March)	9 AM -10:30 AM  "Solid Phase Peptide Synthesis"  Dr. Debabrata Maity (CSIR-IICT)	10:30 AM - 11 AM  Tea	11 AM-12:30 PM  "Protecting Group Strategies in Peptide Chemistry: Principles, Selection, and Orthogonality"  Dr. Anamika Sharma (University of KwaZulu-Natal)	12:30 PM -1:45 PM  Lunch	1:45 PM-5:30 PM  SPPS Practical Demonstration  Dr. Debabrata Maity (CSIR-IICT)  (3:30 PM - 4 PM Tea Break)			
Day 5 (27 <sup>th</sup> March)	9 AM-10:30 AM  "Cyclic Peptide Towards Drug Discovery"  Dr. D. Srinivasa Reddy (CSIR-IICT)	10:30 AM - 11 AM  Tea	11 AM-12:30 PM  "Peptide in Industry"  Dr. Debasish Ghosh (Granules India Limited IIT-Hyderabad)	12:30 PM -1:45 PM  Lunch	2:00 PM-3:30 PM  CSIR-IICT Lab Tour	3:30 - 4 PM  Tea	4 PM - 5.30 PM  Valedictory session	



## SAROJINI NAIDU VANITA PHARMACY MAHA VIDYALAYA (CO-ED)

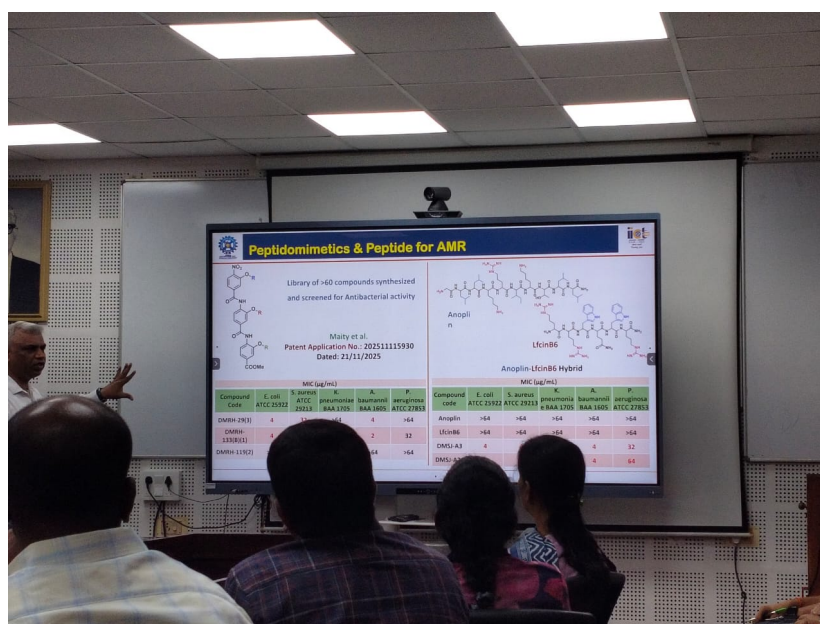
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**Day-1: (23-03-2026) 10 AM to 11 AM**

Dr. Debabrata Maity presided over the seminar and delivered the welcome address, emphasizing the growing significance of peptide synthesis in both industry and academia.

He then invited Dr. Sandeep B. Bharate, Head of the Department of Natural Products and Medicinal Chemistry, to deliver his lecture on “*Protease Enzymes and Peptidomimetics.*” His insightful presentation highlighted novel technologies for the isolation of bioactive peptides from natural sources. He further elaborated on emerging approaches in photo-responsive drug discovery, providing valuable perspectives on innovative strategies in modern pharmaceutical research.



**Day-1: (23-03-2026) 11 AM to 11:30 AM**

**Group Photo session and High Tea**





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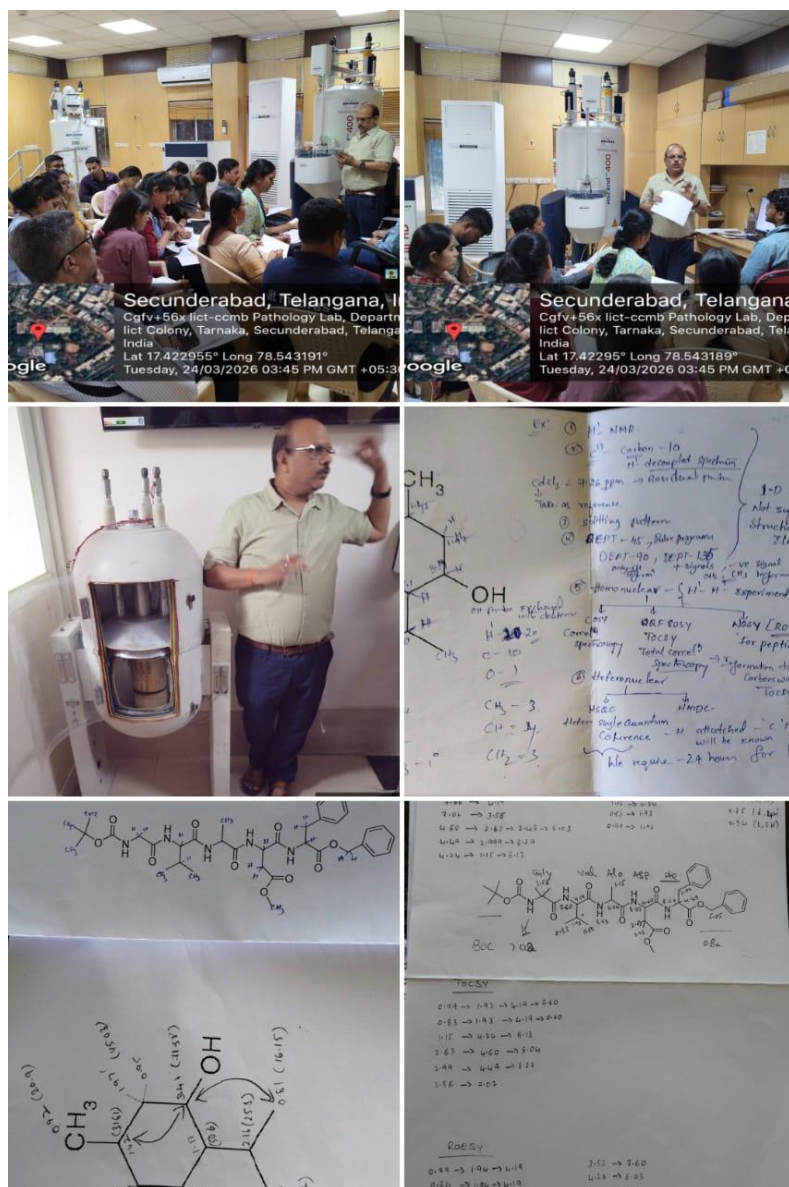
Dr. Debabrata Maity actively interacted with the training participants, fostering an engaging and collaborative learning environment. This was followed by a theoretical session on “*Functional Peptide Assemblies with Spatio-Temporal Regulation*” delivered by Dr. Sahnawaz Ahmed.

Subsequently, Dr. Nayani Kiranmai conducted a session on “*Solution-Phase Synthesis of Peptides and Peptidomimetics: Development of Bioactive Peptides for Affordable Healthcare,*” highlighting strategies for designing and synthesizing cost-effective therapeutic peptides.

## Day-2: 24-03-2026

A theoretical session on “*Nuclear Magnetic Resonance: A Key Tool in Structural Elucidation of Peptides*” was delivered by Dr. Ravi Shankar Ampapathi. The session emphasized peptide characterization using advanced 2D NMR techniques such as DEPT-45, DEPT-90, COSY, TOCSY, NOESY, HSQC, and HMBC.

These concepts were further reinforced through a hands-on practical session conducted in the afternoon by Dr. Rama Krishna and Dr. Ravi Shankar Ampapathi, enabling participants to gain practical exposure to NMR-based structural analysis of peptides.





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### Day-3: 25-03-2026

A theoretical session on “*HPLC Applications in Peptide Analysis*” was delivered by Dr. Debasish Swain, who provided valuable insights into problem identification and troubleshooting strategies in HPLC during peptide synthesis.

This was followed by a session from Dr. Nagaraju Rajana, who elaborated on the identification and spectral characterization of peptides, including molecular ion peaks, isotopic patterns, as well as monomeric and dimeric masses.

In the afternoon, a hands-on practical session was conducted on the analysis of a dipeptide using the LC-MS technique, enabling participants to gain practical experience in peptide characterization.



### Day-4: 26-03-2026

A theoretical session followed by a hands-on practical session was conducted by Dr. Debabrata Maity. During this session, participants were guided through the synthesis of a dipeptide using the Solid Phase Peptide Synthesis (SPPS) method.

The session was highly interactive, with the resource person actively addressing queries and clarifying doubts throughout the synthesis process. By the end of the session, participants successfully obtained the dipeptide as a white solid, which was subsequently submitted for spectral characterization.



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### Day-5: 27-03-2026

A theoretical session on “*Cyclic Peptides Towards Drug Discovery*” was delivered by Dr. D. Srinivas Reddy, Director of CSIR-Indian Institute of Chemical Technology. He illustrated his lecture with relevant examples of cyclic peptides developed by his research group, including Daptomycin, Teixobactin, and Solomonamide. He also discussed key organic synthesis strategies such as Native Chemical Ligation, emphasizing its role in minimizing racemization during peptide synthesis.

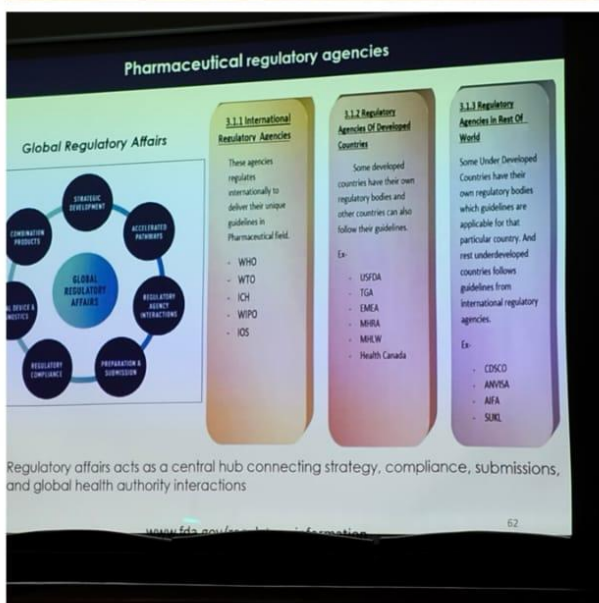
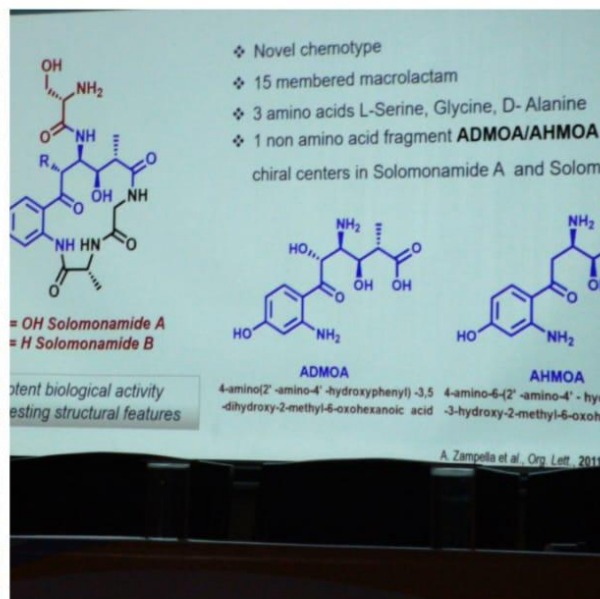
Another significant theoretical session was delivered by industry expert Dr. Debasis Ghosh from Granules India on the topic “*The Peptide Workshop and the Skills that Matter.*” He highlighted industrial perspectives on peptide synthesis, including the use of polycarbon-based tags, and provided insights into downstream purification techniques essential for large-scale peptide production.



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Drug (Salt)	Brand MRP	Brand Name	Generic MRP	% Difference
Semaglutide	11,175	Ozempic	1300	88%
Domperidone 30 mg + Pantoprazole 40 mg	202.7	Pantodac DSR	129	36.30%
Dapagliflozin 10 mg	362.8	Forxiga	180	50.30%
Pantoprazole 40 mg	144	Pansec	70	51.38%
Cetaminophen 650 mg	33.6	Calpol 650	20.16	40.00%
Levocetirizine 5 mg + Montelukast 10 mg	246	Montair LC	27	89.02%
Telmisartan 40 mg + Amlodipine 5 mg	307.5	Telma AM	22.95	92.53%
Metformin 500 mg + Glimperide 2 mg	263	Glimy M2 PR	140	46.76%
Amlodipine 5 mg	42	Amlodac 5	32.3	23.09%
Vildagliptin 50 mg + Metformin 500 mg	346	Vidala-M 50/500	115	66.76%

Generic drugs are significantly cheaper than brand drugs, showing price reductions of 23% to over 90%

## Conclusion

The Skill Development Program on Peptide Synthesis organized by CSIR-Indian Institute of Chemical Technology was highly informative and beneficial. It provided a comprehensive learning experience by combining theory with practical exposure. Such initiatives play a vital role in developing skilled professionals ready to meet the demands of the pharmaceutical and research industries.

## Vote of Thanks:

The Vote of Thanks was proposed by **Dr. Debabrata Matiy**, Scientist-D, and Department of Medicinal chemistry. He expressed his sincere gratitude to all the analytical and peptide department scientists and research scholars for their constant encouragement, support, and for providing the necessary facilities to successfully organising the skill development program.



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Dr. V. J. Rao, In-charge director of CSIR-IICT, conveyed his heartfelt thanks to the all the participants for actively participating in the skill development program on peptide synthesis, that enriched the knowledge and perspective of the students and faculty. Sir appreciated the speaker's valuable time, expertise, and willingness to share experiences that inspired budding pharmaceutical profession.

## Outcomes of the Program

- Improved understanding of peptide synthesis techniques
- Enhanced laboratory skills and technical competence
- Awareness of industrial applications of peptides
- Increased confidence to pursue research or careers in pharmaceuticals and biotechnology
- Hands-on laboratory sessions
- Interactive discussions and doubt clarification
- Exposure to real-time research environment
- Collaborative learning with peers

### Impact of the Program:

#### 1. Enhancement of Technical Skills

Learning peptide synthesis—especially techniques like Solid Phase Peptide Synthesis (SPPS)—enables individuals to:

- Handle advanced laboratory equipment
- Understand reaction mechanisms and stepwise synthesis
- Perform purification and characterization using chromatographic and spectroscopic methods

This hands-on exposure strengthens practical expertise, which is crucial in pharmaceutical and biotechnology industries.

#### 2. Bridging Academia and Industry

Peptide synthesis training connects academic concepts with real-world applications. It introduces learners to:

- Drug design and development processes
- Industrial synthesis protocols
- Quality control and validation techniques

#### 3. Advancement in Research Capabilities

Upskilling in peptide synthesis fosters research aptitude by:

- Encouraging problem-solving and experimental design
- Enabling work on bioactive peptides, vaccines, and therapeutic agents
- Supporting interdisciplinary research in chemistry, biology, and medicine

#### 4. Increased Employability

With the growing importance of peptide-based drugs, individuals trained in peptide synthesis gain:



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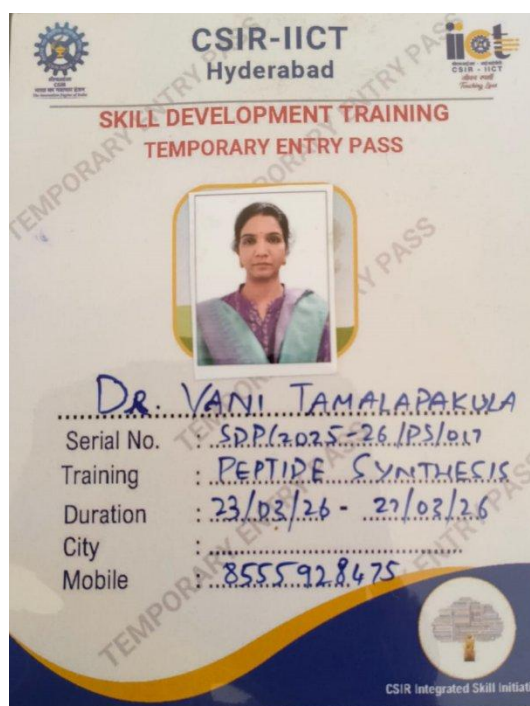
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- Better career opportunities in pharmaceutical companies, CROs, and research labs
- Roles in R&D, quality control, and regulatory affairs
- Competitive advantage in higher education and specialized research fields

## 5. Development of Analytical and Critical Thinking

The stepwise and precision-oriented nature of peptide synthesis enhances:

- Attention to detail
- Analytical thinking
- Troubleshooting skills






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NBA Accredited B.Pharmacy Course - NAAC Accredited with A+ Grade  
UGC AUTONOMOUS INSTITUTION

Ref.: SNVPMV/Admin/2026/705 Date: 20/03/2026

To  
The Director  
CSIR-Indian Institute of Chemical Technology (IICT)  
Hyderabad, Telangana

**Subject:** No Objection Certificate for Attending Skill Development Program on Peptide Synthesis

Respected Sir/Madam,

This is to certify that **Dr. T. Vani**, Associate Professor of our institution, **Sarojini Naidu Vanita Pharmacy Maha Vidyalaya (Co-Ed.)**, is permitted to attend the **Skill Development Program on "Peptide Synthesis"** scheduled to be held at **CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad**, from **23.03.2026 to 27.03.2026**.

The management of the institution has **no objection** to her participation in the above-mentioned program. She is allowed to attend the program during the said period as part of her academic, R&D and professional development.

This certificate is issued for the purpose of submission to **CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad**.

Thanking you.

Yours sincerely  
**Dr. T. Mamatha**  
Principal  
SNVPMV  
Sarojini Naidu Vanita Pharmacy Maha Vidyalaya (Co-Ed.)  
UGC Autonomous Institution  
Vijayapuri Colony, Tarnaka, Secunderabad-500 017.

H.No. 12-5-31 & 32, Vijayapuri Colony, Tarnaka, Secunderabad - 500 017, Telangana, INDIA.  
Phone : 040-27002221, Mobile : 92480 77972  
e-mail : principal@snvpharmacycollege.com www.snvpharmacycollege.com

Date: 11-02-2026,  
SNVPMV, Tarnaka.

To,  
The Principal,  
SNVPMV, Hyderabad.

**Subject:** Application to Attend Skill Development Programme on Peptide Synthesis at IICT Hyderabad

Respected Madam,

I am writing to express my keen interest in participating in the Skill Development Programme on *Peptide Synthesis* being conducted at CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad.

I am currently working in the field of Pharmaceutical/Medicinal Chemistry with active involvement in synthetic organic chemistry and the design of biologically relevant molecules. My research interests include the synthesis of structurally complex molecules and peptide-like compounds containing diverse functional groups. As peptide chemistry plays a pivotal role in modern drug discovery, targeted therapeutics, and biomolecular research, I am highly motivated to strengthen my technical expertise in this domain.

This programme will provide valuable hands-on exposure to contemporary peptide synthesis strategies, including solid-phase peptide synthesis (SPPS), coupling methodologies, protection-deprotection strategies, purification techniques, and analytical characterization. The opportunity to learn from experts at IICT and interact with fellow researchers will significantly enhance my practical skills and broaden my research perspective.

The knowledge and training gained from this programme will directly contribute to my ongoing and future research projects, particularly in the design and synthesis of bioactive peptide analogues and therapeutic candidates. I am confident that this training will enable me to incorporate advanced peptide synthesis techniques into my research work and academic activities.

I sincerely request you to kindly consider my application for participation in this programme. I would be grateful for the opportunity to attend and benefit from this prestigious training initiative at IICT Hyderabad.

Thank you for your time and consideration.

Yours sincerely,  
**Dr. T. Vani**  
Associate Professor,  
SNVPMV.

To  
HR  
Mam



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NBA Accredited B. Pharmacy Course, Accredited A+ grade by NAAC (AY: 2025-2026)

Date: 13.03.2026

To  
The Director  
CSIR-Indian Institute of Chemical Technology (IICT)  
Hyderabad, Telangana

**Subject:** No Objection Certificate for Attending Skill Development Program on Peptide Synthesis

Respected Sir/Madam,

This is to certify that **Dr. S. Hemalatha**, Professor & HOD of our institution, Sarojini Naidu Vanita Pharmacy Maha Vidyalaya (Co-Ed), is permitted to attend the Skill Development Program on "Peptide Synthesis" scheduled to be held at CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad, from 23.03.2026 to 27.03.2026.

The management of the institution has **no objection** to her participation in the above-mentioned program. She is allowed to attend the program during the said period as part of her academic, R&D and professional development.

This certificate is issued for the purpose of submission to **CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad.**

Thanking you,  
*A.T.*  
Yours sincerely  
Dr. T. Mamatha  
Principal  
SNVPMV  
Sarojini Naidu Vanita Pharmacy Maha Vidyalaya (Co-Ed)  
UGC Autonomous Institution  
Vidyapeeth Colony, Tarnaka, Secunderabad-500 017.

13/03/2026

From: Dr. S. Hemalatha  
Professor & HOD  
Department of Pharmaceutical  
Chemistry  
S.N.Vanita Pharmacy  
Maha Vidyalaya  
Tarnaka,  
Secunderabad.

To:  
The principal  
S.N.V.P.M.V  
Secunderabad.

Sub: Through proper channel  
Request for permission and no objection  
certificate requesting, etc..

Respected madam,

I have been selected to attend a skill development program at CSIR-IICT, Hyderabad. Therefore, I kindly request you to grant me permission and issue a no objection certificate to enable me to attend the program. Title of the program "on peptide synthesis" from 23<sup>rd</sup> to 27<sup>th</sup> march 2026. This program will help me enhance the research knowledge in synthesis of molecules.

Thanking you,

*A.T.*  
13/3

Yours sincerely  
*A.T.*  
Dr. S. Hemalatha

Certd