No.: 1-5/2025-NTI.WA
Government of India
Ministry of Communications
National Communication Academy – Technology (NCA-T)
Govt. of India Enclave, Near Rajnagar, Ghaziabad, UP – 201002

Dated:20th January, 2026

To

1. **Director General (Telecom),**
   DoT HQ, New Delhi

2. **Additional Director General, TEC, New Delhi**

Subject: Nomination of officers in 02-Weeks Proficiency Level-2 (PL-2) Course on "Machine Learning / Deep Learning for Wireless Communication" for In-Service DoT Officers at IIT Kanpur to be held from 09 February to 20 February, 2026

Sir,

National Communication Academy – Technology is organising a two -week Proficiency Level-2 (PL-2) course titled **"Machine Learning / Deep Learning for Wireless Communication"** for the In-Service DoT officers at **IIT Kanpur** from **09 to 20 February 2026**. The course aims to provide foundational to intermediate-level understanding of ML/DL concepts and their applications in wireless communication systems, aligned with emerging technologies and regulatory needs. Brief outlines of the course are attached (Annexure-I).

2. The training is intended for officers to provide the applied knowledge of ML/DL techniques for technology assessment, policy formulation, standards, and network analysis functions within DoT and TEC.
3. This course has been arranged for 20 to 25 officers of DoT. Boarding and Lodging has been arranged within IIT Campus, and participants will pay the stay and boarding charges directly. The charges are within the entitlement of the officers (approximately Rs 2500/- per day for stay)
4. It is therefore requested that suitable officers (**up to Director level**) may kindly be nominated for the above course from DoT LSAs/DoT Units/TEC etc. Since the program includes extensive hands-on sessions, all nominated officers are required to bring their laptops while attending the program.

   In view of the competency portal presently under migration/maintenance, it is requested to send the nominations, duly recommended by the competent approving authority, giving the details in the following format on mail-id: sandeep.ntiprit@gov.in latest by 30-01-2026 (Friday):

SN	Name of Officer	Designation, Unit	Staff No.	E-Mail	Mob. No

5. In case of any clarifications, Shri Sandeep Singh, AD, NCA-T may be contacted on 9463502525.
6. The participants need to complete the following PL-1 courses on iGOT before joining the above referred course at IIT K:

5G Air Interface Part 1 (https://portal.igotkarmayogi.gov.in/app/toc/do_11392113600606208017 3/overview)

5G Air Interface Part 2

(https://portal.igotkarmayogi.gov.in/app/toc/do_11402018820099276818O/overview)

5G Air Interface Part 3

(https://portal.igotkarmayogi.gov.in/app/toc/do_11402019342222131217 9/overview)

7. The confirmed list of participants will be communicated separately. Officers may plan their travel only after receipt of confirmation.

Digitally signed by
Ram Pratap Singh
Date: 20-01-2026
13:03:44

Director (WA)
NCA-T, Ghaziabad

Copy for kind information to:

1. PSO to Secretary(T), DoT
2. Member(S)/Member(T) DoT HQ, Sanchar Bhavan, New Delhi
3. Additional Secretary(T), DoT
4. Administrator, USOF
5. DoT HQ website: For kind information and requesting the interested officers in the DoT HQs/DoT LSAs/ TEC etc for sending their nominations through their controlling officers.

Annexure-I

Couse Name: Machine Learning and Deep Learning in Wireless Communication
Duration: 02 Weeks
Level: Advanced Proficiency Level -2 (PL-2)

Introduction:

Machine learning will soon become an integral part of six-generation (6G) wireless systems. Its gains are currently being investigated for designing all the layers of 6G wireless systems. This two-weeks course will first provide an in-depth understanding of various machine learning techniques which are being considered for designing wireless systems. It will also have a laboratory component for the participants to implement some of the algorithms themselves. The course will also discuss how machine learning is being envisaged for incorporation in 6G wireless systems, and various use cases being considered currently.

Topic to be covered:

- Basics of Machine Learning and Deep Learning
- Introduction to data handling, programming, and visualization
- Probability and statistics concepts for Machine Learning
- Overview of modern wireless technologies (OFDM, MIMO)
- Fundamentals of machine learning algorithms: Linear and logistic regression, Classification and clustering methods, Support Vector Machines and decision trees
- Basics of neural networks and training methods
- **Deep learning concepts:** Multi-layer networks, Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM), Transformers and large language models
- **Machine learning applications in wireless communication:** Channel estimation, Beam prediction, Blockage and CSI prediction
- Reinforcement learning basics and its use in wireless systems
- Federated learning concepts and privacy in wireless networks
- **6G wireless systems:** Use cases of ML/DL in future networks, Industry-standard datasets and architectures
- Hands-on laboratory sessions
    - Wireless system simulations
    - ML/DL algorithm implementation
    - Practical use cases in wireless communication