

No. 52-1/2019-Trg
Government of India
Department of Telecommunications
211, Mahanagar Doorsanchar Bhawan, Old Minto Road, New Delhi-110002
(Training & Capacity Building Division)

Dated: 23rd June, 2021

Subject: Four weeks online training programme on “Tools and Testers required for rollout testing, QoS Testing and EMF Measurement” – conducted by NTIPRIT for Officers of Department of Telecommunications, commencing from 19th July 2021.

National Telecommunications Institute for Policy Research, Innovation & Training (NTIPRIT), Ghaziabad, is inviting nominations for the above-mentioned online training course, vide attached O.M. No. 1-6/2021-NTI.WA dated 22.06.2021. Further details of the program are as under: -

Name of the Course	Four weeks online training programme on Tools and Testers required for rollout testing, QoS Testing and EMF Measurement
Duration / Dates	Commencing from 19 th July 2021 (4 weeks)
Location	Online by NTIPRIT
Eligibility	All DoT officers
Last date of registration	Friday, 9 th July 2021.
Registration Link	https://tinyurl.com/bd8rddsk

2. Brochure of the programme, is attached as Annex-II.

How to Apply:

3. All the Heads of LSAs/Sr. DDG (TEC)/Sr. DDG (NCCS)/ All DDGs of DOT HQ, Department of Telecommunications are requested to circulate the information about this training programme among officers of your respective Units/Divisions/ LSAs and nominate a panel of 2-3 officers for this training programme.

4. After obtaining the requisite approval, nominated officers (by respective unit head) shall kindly visit (<https://tinyurl.com/bd8rddsk>), for Registration process.

5. After successful registration, nominated Officers need to send a mail enclosing duly filled and submitted registration form to the Sh. Suneet Kumar Tomar, ADG (WA), NTIPRIT at suneetkumar.tomar@gov.in. by the last date of registration.



(Prakash Dangi)
ADG (Training), DoT HQ

Copy:

Posted only on DoT website

Government of India
Ministry of Communications
Department of Telecommunications
National Telecommunications Institute for Policy Research, Innovations & Training,
ALTTC Campus, Ghaziabad-201002

Office Memorandum

No. 1-6/2021-NTI.WA

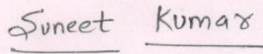
Dated: 22.06.2021

Subject: Nomination for four weeks online training programme on "Tools and Testers required for rollout testing, QoS Testing and EMF Measurement" being conducted by NTIPRIT w.e.f. 19th July 2021 for Officers of Department of Telecommunications

In pursuance to its objective of training and capacity building in the field of Information and Communication Technology, National Telecommunications Institute for Policy Research, Innovation and Training (NTIPRIT) is conducting a four weeks online training programme on "Tools and Testers required for testing rollout, QoS and EMF Measurement" w.e.f. 19th July 2021 to train the Officers of Department of Telecommunications in various aspects of RF Planning, Cellular Coverage Planning, EMF Measurement from Mobile Towers, Testing Rollout obligations, conducting drive tests for coverage, QoS and Network Optimization etc.

2. An e-brochure of this training programme is attached. Accordingly, It is requested to circulate the information about this training programme among officers of your respective Units/Divisions/ LSAs and nominate a panel of 2-3 officers for this training programme. The nominated officers may register for this training programme at <https://tinyurl.com/bd8rddsk>. After successful registration, nominated Officers need to send a mail enclosing duly filled and submitted registration form to the undersigned at suneetkumar.tomar@gov.in. It may be noted that the last date of registration for this training programme is 9th July 2021.

3. Any difficulty in registration or nomination may be brought to the notice of undersigned or Sh. Ashok Kumar, Director (Wireless Access), NTIPRIT – ashok.kr100@gov.in



(Suneet Kumar Tomar)
ADG (Wireless Access)
(suneetkumar.tomar@gov.in)

Encl: As above

To,

1. All the Heads of LSAs/Sr. DDG (TEC)/Sr. DDG (NCCS)/ All DDGs DOT HQ, Department of Telecommunications with a request to nominate officers for this training programme as per details above.

Copy for Kind Information to:

1. Sr. PPS to Member (Services)/Member (Technology), Digital Communications Commission, Sanchar Bhawan, New Delhi.
2. Sr. PPS to Director General (Telecom), Sanchar Bhawan, New Delhi.
3. PPS to Sr. DDG (NTIPRIT), Ghaziabad.
4. DDG (Training)/Director (Training) DOT HQ – with a request to upload the O.M. and e-brochure on DOT Website.
5. DDG (Training) NTIPRIT.
6. All Officers of NTIPRIT, Ghaziabad.



TRAINING PROGRAMME ON TOOLS AND TESTERS

Course Starting on
19th July 2021

SCAN to register for the course
or

Visit: <https://tinyurl.com/bd8rddsk>

(Last Date to Register 9th July 2021)



BACKGROUND

Telecom networks are critical installations which form the backbone of India's digital economy and security. Expansion of telecom network and services across the country and its proper upkeep are essential to meet the ever-growing demands of the citizens and for realizing the vision of inclusive growth. The success of initiatives like Digital India, Smart Cities and right to Broadband, which the Government intends to implement in mission mode, depends on this critical and essential infrastructure. For achieving the objectives such as promoting universal service and universal access which includes ensuring coverage in rural and remote areas, enabling greater quality of service irrespective of locations of citizens & service providers and to address public concern over health effects from exposure to Electromagnetic Field Radiation (EMR), the telegraph authority i.e. Department of Telecommunications, Government of India issues conditions for rollout of network as per rollout obligations, norms for exposure limit to EMF Radiations from mobile towers etc. which are defined in the license agreement and are to be complied by all the licensees i.e. Telecom Service Providers. Similarly, the regulator i.e. Telecom Regulatory Authority of India (TRAI) monitors the health of telecom network across the country through the QOS parameters laid down vide TRAI's QOS Regulations which are issued from time to time.

OVERVIEW OF TOOLS AND TESTERS TRAINING PROGRAMME

Radio network planning comprises of radio network dimensioning, planning of the coverage, capacity, frequency allocation and interference analysis. Moreover it includes detailed planning, which concentrate on parameter planning with necessary field measurement.

Drive testing is a method of measuring and accessing the coverage, capacity and QoS (quality of service) of a mobile radio network. Major LTE DT parameters include: RSSI (Received signal strength indicator), or the strength of the reference signal, SINR (signal to noise ratio), which compares the strength of the signal to noise ratio, RSRP (Reference signal received power) which is the power of the reference signals, RSRQ (Reference signal received quality) which is the quality of the reference signal which is the ratio of RSSI to RSRP.

Measuring EMF emissions in line with national and international standards helps ensure that transmitter systems comply with the applicable limits and also helps communicate this compliance to the public. Different EMF testing methods are available for measuring the total emissions present, including frequencies from TV and radio broadcast, mobile radio bands and radar transmissions. If there are similar emissions from multiple sources, the tests can also be used to determine the contributions of individual sources, such as base stations in a mobile radio network.

This 4 week/ 20hrs training programme on RF Planning, LTE drive test and EMF Measurement has been specifically designed for Officers of Department of Telecommunications and would cover process of RF Planning in cellular network, Training on Drive Test Tool for coverage, QoS testing and Network Optimization, Training on Post Processing Tool for analysing Coverage and QoS of a Network, Training on EMF measurement tool NARDA SRM-3006, Usage of EMF Portal and its functionality for all the stake holders, Various technical guidelines for Rollout Obligation, QOS Testing and EMF Measurement issued by Department of Telecommunications/ Telecom Engineering Centre etc.



SALIENT FEATURES –

1. Customized for officers of Department of Telecommunications.
2. 20-hour content spread over 4 weeks with 5 sessions per week of one hour each.
3. Holistic coverage of fundamentals of RF Planning, coverage & QoS testing and optimization of the cellular network.
4. The training will also include functioning of Drive Test Tool, Post Processing Tool and EMF Measurement Tool.
5. Blend of sessions by NTIPRIT faculty and experts from Industry including OEMS, TSPs etc.
6. Content Delivery in online mode on MS Teams.
7. Mix of Individual and Group Assignments.
8. Recorded sessions will be available on MS Teams for further learning by the participants.

TRAINING DELIVERY

The training programme on Tools and Testers will be an online live training within a virtual classroom environment. There will be 5 sessions per week (every Monday, Tuesday, Wednesday, Thursday and Friday from 1100 hrs to 1200 hrs) with each session of 1 hour to best suit the requirements and preferred learning style. Participants can access recorded sessions even if they miss any session.

COURSE CURRICULUM

The topics covered in this training programme include: -

1.	Introduction to RF Planning of Wireless Network
2.	RF Planning tool
3.	Cellular coverage planning and Optimization – Experience Sharing by TSP
4.	Drive Test Tool for coverage, QoS testing and Network Optimization
5.	Post Processing Tool for analysis of Coverage and QoS of a Network
6.	Roll Out Obligations of TSPs as per License Conditions
7.	Technical Guidelines for Rollout Obligation Testing (TEC TSTP for Coverage Testing)
8.	Technical Guidelines for QoS Testing
9.	Minimum Roll-out Obligation and QoS testing : Experience Sharing by LSAs
10.	TEC TSTP for EMR Measurement (Calculation Method for EIRP, EIRP threshold calculation, general aspects of TSTP including broadband measurement and frequency selective measurement.)
11.	EMF measurement tool NARDA SRM-3006
12.	Experience Sharing by LSA on EMF Measurement and related Activities
13.	EMF Portal and its functionality for all the stake holders (Reports and its Use, Creation/Updation of BTS sites by TSP, Uploading Audit Data by LSA etc.)
14.	Group Presentation by Participants
15.	Evaluation, Feedback and Valedictory Session



Head of NTIPRIT
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srddg.ntiprit-dot@gov.in



Head of Wireless Access Division
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Course Director
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Course Coordinator
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Government of India

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