

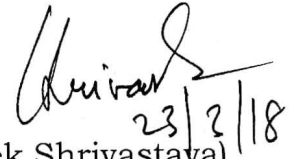
No. 52-1/2017-Trg.(Pt)
Government of India
Ministry of Communications
Department of Telecommunications
1309, Sanchar Bhawan, 20 Ashoka Road,
New Delhi-110001
(Training Cell)
Dated: 23rd March, 2018

OFFICE MEMORANDUM

Subject: ITU Asia-Pacific Centre of Excellence Training Programme on "Mobile Broadband Quality of Service (QoS)", 01 - 05 May 2018 at ALTTC Ghaziabad.

An ITU Asia-Pacific Centre of Excellence Training Programme on "Mobile Broadband Quality of Service (QoS)", 01 - 05 May 2018 is being organised at ALTTC (CoE), India. The invitation letter from ITU and course details are enclosed.

2. The willing officer(s) may send their nomination(s) through proper channel to this office by 6th April '2018 as per registration proforma in the invitation letter enclosed..


23/2/18

(Vivek Shrivastava)
Director (Training-I), DoT
Tel.23723532(O)

Encl: a/a



**Telecommunication
Development Bureau (BDT)**

Ref.: BDT/ROASP/2018-022

23rd February 2018

Administrations of ITU Member States,
Regulators, Sector Members,
Academia in Asia and the Pacific

Subject: **ITU Asia-Pacific Centre of Excellence Training Programme on "Mobile Broadband Quality of Service (QoS)", 01 – 05 May 2018, ALTTC (CoE), India.**

Dear Sir/Madam,

I am pleased to invite your organization to participate in the face-to-face **ITU Asia-Pacific Centre of Excellence (ITU ASP CoE) Training Programme on "Mobile Broadband Quality of Service (QoS)"** to be conducted from **01 – 05 May 2018 at ALTTC, Ghaziabad, INDIA**. This training is organized jointly by the International Telecommunication Union, Telecom Regulatory Authority of India (TRAI) and Advanced Level Telecom Training Centre (ALTTC) as part of the Broadband Access training programme under the auspices of the ITU Centres of Excellence for Asia-Pacific region. The training will be delivered in English at ALTTC, Ghaziabad (Near New Delhi), India.

The training course is designed to enhance the strategic understanding of participants on mobile broadband technologies and related Quality of Services (QoS) and Quality of Experience (QoE) issues. The training will focus on mobile broadband related technologies, policies regulations, spectrum, deployment challenges and solutions aimed at improving QoS and QoE for end users. It will also cover practical demos, assessment techniques and frameworks for new mobile technologies.

This training is targeted at Executives, Managers, Engineers and Technical officers from regulators, policy makers, telecom operators and academia. Other institutions and individuals that are interested in building their capacity in the field of quality of service in mobile broadband are also welcome to participate in this training program. To register for this training, participants are requested to do registration online on ITU Academy platform or send the completed attached form as per Annexure-II latest by **15th April 2018**.

The training fee for this training program is USD 275 (Tax Inclusive) per participant while local participants may pay equivalent training fee in Indian Rupees. Annexure – II contains the details on procedure for registration and training fee payment.

Detailed information of this training program is described in the training outline (Annex - I), which can also be downloaded from the ITU Academy Portal at <https://academy.itu.int/> and <http://www.itu.int/itu-d/asp>.

Mr. Ashish Narayan (ashish.narayan@itu.int) from the ITU and Mr. Sidh Kumar (sidhkhumar@gmail.com) from ALTTC (CoE), India, is at your disposal, if you need any more information.

I look forward to your active participation in the course.

Yours faithfully,

[Original signed]

Ioane Koroivuki
Regional Director,
ITU Regional Office for Asia and the Pacific



ITU Asia-Pacific CoE Training Programme

Mobile Broadband QoS

01st – 05th May 2018

ALTTC, Ghaziabad, India

Training Outline

Programme Description

Title	ITU CoE Training Programme on “Mobile Broadband QoS”
Method of Delivery	Face-to-Face in English
Objectives	<ul style="list-style-type: none"> To understand the significance of QoS for broadband and prevalent international practices. To provide an overview of various mobile broadband technologies To understand the standardisation process, QoS aspects of UMTS, HSPA+ and LTE networks; regulatory and spectrum management issues impacting mobile QoS To build skills on assessment of QoS in mobile broadband To build knowledge on IMT 2020 (5G) and Next Generation Mobile Broadband technologies, Quality Assurance Framework & Security issues;
Duration	01 st – 05 th May 2018 (5 Days)
Registration Deadline	15 th April 2018
Training Fees	<ul style="list-style-type: none"> International participants: USD 275 (Tax Inclusive) per participant. Local participants: USD 275 (Tax Inclusive) or INR 17850/- (Tax inclusive) per participant.
Course Code	18WS20732ASP-E

Learning Outcome

Upon completion of this training, participants will be able to :

- understand the mobile broadband concepts and technologies
- appreciate significance of QoS and International practices
- understand the standardisation processes with emphasis on QoS
- comprehend regulatory approaches, spectrum management principles, process relating to mobile broadband QoS and QoE;
- understand IMT 2020 (5G) technologies and Mobile broadband quality assurance framework and security issues;

Target Population:

This training is targeted at Executives, Managers, Engineers and Technical staff from regulators, policy makers, telecom operators and academia who are interested in QoS of Mobile Broadband. Other institutions and individuals that are interested in building their capacity in the field of Quality of Service in Mobile Broadband are also welcome to participate in this training program.

Draft Training Schedule / Agenda

(Updated information will be available at <http://www.itu.int/itu-d/asp> <https://academy.itu.int>)

01 st May 2018 (Tuesday)		
Session #	Topic	Speaker/Organization
Session 1	Registration and Opening Ceremony	ALTTC, ITU, TRAI
Session 2	Pre-Training Quiz and Discussion	ALTTC, ITU
Session 3	Significance of QoS for Broadband (Wired and Wireless network) and International Practices	ITU
Session 4	Standardisation and Quality of Service	ITU
Session 5	Group Exercise	ALTTC
02 nd May 2018 (Wednesday)		
Session 1	QoS and Mobile Broadband	TRAI
Session 2	Differentiating parameters (QoS&QoE) for Mobile Broadband	TRAI
Session 3	QoS and Policy Management in UMTS / HSPA+ network	ALTTC
Session 4	QoS for LTE and EPC networks	ALTTC
03 rd May 2018 (Thursday)		
Session 1	Spectrum Management for Mobile QoS	TRAI
Session 2	Regulatory Issues: Case of India	TRAI
Session 3	QoS importance in Converged Scenario : M2M, IOT	ALTTC
Session 4	QoS Issues in Broadband through Wi-Fi	BSNL
04 th May 2018 (Friday)		
Session 1	IMT 2020 (5G)& Next Generation Mobile BB: Quality Assurance Framework & Security	TRAI
Session 2	Assessment of QoS in Mobile Broadband	BSNL
Session 3	Assessment of QoS in Mobile Broadband - Demo	BSNL
Session 4	Different Scenario for LTE / LTE-advanced deployment and journey to 5G	Operator/OEM

05 th May 2018 (Saturday)		
Session #	Topic	Speaker/Organization
Session 1	Quiz	ALTTC
Session 2	Presentation by Participants	ITU, ALTTC
Session 3	Validation, Feedback and Certificate Distribution	ALTTC, ITU, TRAI
Session 4	Field Visit	ALTTC

Facilitators / Experts:

Name of Tutor(s)/Instructor(s) / Facilitators	Contact Details
Mr. M K Seth Chief General Manager	Cgm_alttc@bsnl.co.in
Mr. Subhash Chand Principal General Manager, ALTTC, Ghaziabad	subhash.iitr83@gmail.com
Mr. SK Gupta Secretary, TRAI, New Delhi	secretary@traigov.in
Mr. Ashish Narayan Program Coordinator, ITU Regional Office for Asia-Pacific, Bangkok	ashish.narayan@itu.int
Mr. RK Gupta, ALTTC	rkg.1958@rediffmail.com
Mr. Sidh Kumar, ALTTC	sidhkumar@gmail.com
Mr. Arvind Kumar, TRAI	arvindtraigmail.com
Mr. Asit Kadyan, TRAI	asit.kadyan@gmail.com
Mr. Ezhil Buddhan, BSNL	buddhan@gmail.com
Mr. Kishore Bhagtani, BSNL	kbhagtani@gmail.com
Mr. Abhay Gupta, ALTTC	abhaybpl@gmail.com
Mr. Omendra Govind, ALTTC	omendra@gmail.com
Mr Gaurav Kapoor, BSNL	globalkapoor@yahoo.com
Mr Ashish Gupta, ALTTC	Ashishgupta.eng@gmail.com
Mr Rajeev Sharma, ALTTC	at.rajeev@gmail.com
Mr. Anand Kumar, ALTTC	ananadkumarbsnl21@gmail.com
Mr. Vikas Nigam, ALTTC	nigamvikas06@gmail.com

Evaluation

The assessment of the participants shall be based on the time spent on the training and the following parameters:

Evaluation Parameter	Weightage
Quizzes and Presentations	60%
Attendance	10%
Participation	30%

The minimum passing requirement for certificate is 60%

Methodology:

The face-to-face program will include

- Instructor-led presentations
- Case Studies
- Group Exercises
- Assignments and Quizzes

Training Coordination

<p>Institute Head: Mr. M K Seth Chief General Manager ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -201002 cgm_alttc@bsnl.co.in (Email) +91 120 2755121 (Works)</p> <p>Institute Coordinator: Mr. Sidh Kumar Dy GM (BB & MC) ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -201002 sidhkumar@gmail.com (Email) +91 120 2755158 (Works) +91 9868135772 (Mobile)</p>	<p>Training coordinators: Mr. Gobind Khattar General Manager (EB) ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -201002 gmbsnl0105@gmail.com (Email) +91 120 2704638 (Works) +91 9868123800 (Mobile)</p> <p>Mr. Abhay Gupta Dy GM (Mobile) ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -201002 abhaybpl@gmail.com (Email) +91 120 2755147 (Works) +91 94127 39319 (Mobile)</p>	<p>ITU coordinator: Mr. Ashish Narayan Program Co-ordinator, ITU Regional Office for Asia-Pacific 5th Floor, Thailand Post Training Centre, 111 Moo3 Chaengwattana Road, Laksi, Bangkok 10210,Thailand ashish.narayan@itu.int (Email) +66 257 500 55 (Works) +66 257 535 07 (Fax)</p>
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REGISTRATION AND TRAINING FEE PAYMENT

1. Registration and Fee payment procedure are mentioned in Annexure - II
2. Training fee for international participants is USD 275(US Dollar Two Hundred and Seventy Five Only) per participant and Indian participants can pay training fee either as USD 275 (US Dollar Two Hundred and Seventy Five Only) through ITU Academy Portal or INR 17,850 (Indian Rupees Seventeen Thousand Eight Hundred and Fifty Only) to ALTTC, India.
3. Boarding and lodging charges for this training are in addition to the above charges as applicable as detailed in annexure - II.

Registration Procedure

Registration for this training program

Please complete the form in Annexure-II A and II B and submit through email to Mr. Abhay Gupta (abhaybpl@gmail.com) with copy for information to Mr. Ashish Narayan (ashish.narayan@itu.int) and Ms. Wachira Woramanakul (wachira.woramanakul@itu.int), Mr. Sidh Kumar (sidhkumar@gmail.com).

Please note that registration should be done before 15th April 2018.

Fee Payment Procedure

Payment made to ITU directly (All participants)

1. Online payment in USD

Training fee of USD 275 (Tax Inclusive) in US Dollar can be made directly at the ITU portal using the following link:

Skip Step 1, if you already have a username and password

Step 1: Create an account in the ITU Academy portal at the following address:

https://academy.itu.int/index.php?option=com_hikashop&view=user&layout=form&Itemid=559&lang=en

After completing the registration form, a message will be sent to you to your email address inviting you to log in to the platform.

Step 2: Once you are logged in, you can search for the course “**Mobile Broadband QoS**” in the training catalogue or directly proceed to the course through the following link:

https://academy.itu.int/index.php?option=com_joomla&view=coursecategoryextended&cat_id=&course_id=1283:mobile-broadband-qos&Itemid=476&lang=en

2. Payment by Bank Transfer

Where it is not possible to make payment via the online system, a bank transfer may be done on the ITU Bank account shown below. In this case, the participant should select the offline payment option using the link mentioned above.

The participant will be redirected to a page where an invoice is generated. On the basis of such invoice, the participant will transfer the training fees to the ITU bank account. When the bank transfer has been made, it is IMPERATIVE that the applicant uploads the proof of payment to the ITU Academy, under the “Offline Invoices” tab in the main menu. The participant is advised to notify the Human Capacity Building (HCB) Division at hcbmail@itu.int and to ALTTC CoE Coordinator at sidhkumar@gmail.com after he/she has uploaded the proof of payment.

3. ITU Bank Account Details

Name and Address of Bank:	UBS Switzerland AG, Case postale 2600, CH 1211 Geneva 2, Switzerland
Beneficiary:	Union Internationale des Télécommunications
Account number:	240-C8108252.2 (USD)
Swift:	UBSWCHZH80A
IBAN	CH54 0024 0240 C810 8252 2

Amount:	USD 275 (\$)
Payment Reference:	COE-ASP 20732 WBS P.40593.1.04

4. Other method of payment:

If due to national regulations, there are restrictions that do not allow for payment to be made using options 1 & 3 above, please contact the ITU Program Coordinator for further assistance.

Alternate option for local participants only (Payment made to ALTTC directly)

Online payment / Bank transfer in Indian Rupee

Training fee of INR 17,850 (Tax Inclusive) in INR can be made directly to the ALTTC bank account. The details are as follows:

ALTTC Bank Account Details

1. Name of Account Holder: **AO Cash, BSNL ALTTC**
2. Account Type: **Current**
3. Account no: **10888625814**
4. Bank Name: **State Bank of India, Main Branch, Ghaziabad, INDIA**
5. IFSC code: **SBIN0000642**

Boarding and Lodging

1. Pick up and Drop arrangement from / to the Indira Gandhi International Airport, New Delhi can be arranged at the cost of USD 155 (US Dollar One Hundred Fifty Five Only) or INR 10,000 (Indian Rupees Ten Thousand Only). This payment shall be made at ALTTC, Ghaziabad.

2. Rates for Lodging and Boarding at Ghaziabad are as follows.

a. **ALTTC Hostel** Accommodation- J.C. Bose Hostel (within ALTTC Campus)

The charge of JC Bose hostel is as follows:

Name of the Hostel	Per Day charges (Inclusive of taxes)
JC Bose Hostel	
ALTTC Campus	USD 50 or INR 3300 per day
Ghaziabad, UP - 201 002	(All meals included)
Fax : +91-120-2756985	

The above charges can be made at the reception of JC Bose Hostel, ALTTC, Ghaziabad.

b. **Hotel Accommodation** - 'Fortune Inn Grazia' (nearest hotel)

The charges of hotel are as below:

Name of the Hotel	Per Day charges (GST additional @ 18%)		
'Fortune Inn Grazia'	With	With	With
Plot No.1, Sector No. 23, Sanjay Nagar District Centre, Ghaziabad, UP - 201 002	Breakfast	Breakfast Dinner	Breakfast Lunch Dinner
Phone :+91-120-3988442 Fax :+91-120-3971-170	INR 4,000	INR 4,500	INR 5,000

The above charges of hotel can be made at the reception.

For accommodation reservation and pick up / drop arrangement, send "Accommodation Reservation Form" along with "Registration Form" through email.



ITU Face to Face Training Program

Mobile Broadband QoS

01st – 05th May 2018
ALTTC, Ghaziabad, India


REGISTRATION FORM

To be returned to through email to Mr. Abhay Gupta (abhaybpl@gmail.com)
 Cc: Mr. Ashish Narayan (ashish.narayan@itu.int) and Ms. Wachira Woramanakul
 (wachira.woramanakul@itu.int)

Before 15th April 2018

Please complete the form below using CAPITAL LETTERS

Name: (As per Passport)	TITLE FIRST NAME		
	MIDDLE NAME		
	LAST NAME		
Designation / Position Title			
Date of Birth		Gender	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
Passport No. (If applicable)		Nationality	
Email ID			
Contact No.			
Name of the Organisation			
Organisation Address	Country: Telephone No.: Fax No.: Email ID:		
Accommodation Arrangement	JC Bose Hostel	Hotel	Own arrangement
Pick / Drop from Airport	Required		Not Required



ITU Face to Face Training Program

Mobile Broadband QoS01st – 05th May 2018**ALTTC, Ghaziabad, India****FEE PAYMENT DETAIL**

To be returned to through email to Mr. Abhay Gupta (abhaybpl@gmail.com)
 Cc: Mr. Ashish Narayan (ashish.narayan@itu.int) and Ms. Wachira Woramanakul
 (wachira.woramanakul@itu.int)

Before 15th April 2018

Name: (As per Passport)	TITLE FIRST NAME MIDDLE NAME		
	LAST NAME		
Passport No. (If applicable)		Nationality	
Email ID			
Fee Paid	<input type="checkbox"/> US Dollar 275	<input type="checkbox"/> Indian Rupee 17,850	
Mode of Payment	<input type="checkbox"/> Online	<input type="checkbox"/> Bank Transfer	
Transaction Reference No.			
Date and Time of Transaction			



ITU Face to Face Training Program

Mobile Broadband QoS

01st – 05th May 2018

AL TTC, Ghaziabad, India

ACCOMMODATION RESERVATION FORM

To be returned to through email to Mr. Abhay Gupta (abhaybpl@gmail.com)

Cc: Ms. Wachira Woramanakul (wachira.woramanakul@itu.int)

Before 15th April 2018

Please complete the form below using CAPITAL LETTERS

Name: (As per Passport)	TITLE FIRST NAME MIDDLE NAME		
	LAST NAME		
Date of Birth	DD / MM / YYYY	Gender	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
Passport No. (If applicable)		Nationality	
Email ID			
Contact No.			
Name of the Organisation			
Accommodation Reservation	<input type="checkbox"/> JC Bose Hostel	<input type="checkbox"/> Fortune Inn Grazia' Hotel	
Date of Arrival	DD/MM/YYYY	Flight No.	Time
Date of Departure	DD/MM/YYYY	Flight No.	Time
Pick / Drop from Airport	Required		Not Required