

No.52-1/2017-Trg.(Pt-III)
Government of Communication
Ministry of Communications
Department Of Telecommunications
1309, Sanchar Bhawan, 20 Ashoka Road,
New Delhi-110001.
(Training Cell)

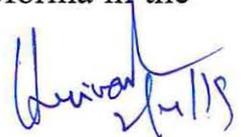
Dated 02.04.2019

**Subject: ITU Asia-Pacific Centre of Excellence Training Programme on
“Evolution and Emerging Trend of Broadband Access Technologies”,
20-24 May 2019, at ALTTC Ghaziabad.**

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An ITU Asia-Pacific Centre of Excellence Training Programme on
“Evolution and Emerging Trend of Broadband Access Technologies”, 20-24
May 2019 is being organized at ALTTC (CoE), India. The invitation letter
from ITU and course details are enclosed.

The willing officer(s) may send their nomination(s) through proper
channel to this office by 12th April,2019 as per registration proforma in the
invitation letter enclosed.



(Vivek Shrivastava)
Director (Training-II), DoT
Tel: 23723532 (O)

Encl: a/a



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*DDG
29-03-2019*

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DDG (DS)

Telecommunication
Development Bureau (BDT)
Regional Office for Asia and the Pacific

Ref.: ITU/ROASP/2019-036

22 March 2019

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

*Dir/PSA
29/3*

Subject: ITU Centres of Excellence face-to-face training course on "Evolution and Emerging Trend of Broadband Access Technologies", 20-24 May 2019, ALTTC (CoE), Ghaziabad, India

Dear Sir/Madam,

I am pleased to invite your organization to participate in the face-to-face training course on "Evolution and Emerging Trend of Broadband Access Technologies" to be held in Ghaziabad, India from 20-24 May 2019. This training is organized jointly by the International Telecommunication Union and the Advanced Level Telecom Training Centre (ALTTC) as part of the Wireless and Fixed Broadband programme under the auspices of the ITU Centres of Excellence for Asia-Pacific. The training will be delivered in English.

The training course is designed to understand technical trends and market status of broadband wireline and wireless access networks, Next Generation Access – High speed (Broadband) IP based connectivity (ADSL, VDSL, Wi-Max, FTTH, BoPL etc.). The training will enable the participants to understand and appreciate the mobile broadband networks, technologies and the related quality of service (QoS), optical fibre backhaul network issues and trends and next generation network architecture and services. Further, this training will also address the security challenges of broadband network access technologies. Detailed information on this training course is described in the course outline which can be downloaded from the ITU Academy Portal at the following link <http://academy.itu.int/> and <http://www.itu.int/itu-d/asp>.

This training is targeted at executives, managers, engineers and technical staff from regulators, policy makers, telecom operators and academia. Other institutions and individuals that are interested in building their capacity in the field of wireless and fixed broadband are also welcomed to participate in this training program. Registration should be made online at the aforementioned link no later than 25th April 2019. Payment details are specified in the course outline.

Mr. Ashish Narayan (ashish.narayan@itu.int) from the ITU and Mr. Subhash Chand (subhash.iitr83@gmail.com) from ALTTC (CoE), India are at your disposal, if you need any more information.

I look forward to your active participation in this training course.

Yours faithfully,

Such trainings are organised & coordinated by training division in DOT. Therefore, it may be forwarded to them. Submitted please.

Ioane Koroivuki
Regional Director

DDG (DS) 1/14

DDG (Tng)

International Telecommunication Union • Regional Office for Asia and the Pacific
5th Floor Thailand Post Training Center • 111 Chaengwattana Road • Laksi • Bangkok 10210 • Thailand
Tel: +66 2575 0055 • Fax: +66 2575 3507 • E-mail: ituasiapacificregion@itu.int • www.itu.int

*Dir-Eng II
17. Bedekar
17/4/19*



Annexure – II

ITU Centres of Excellence Network for Asia-Pacific Region

Advanced Level Telecom Training Centre FACE-TO-FACE Training Course on

EVOLUTION AND EMERGING TREND OF BROADBAND ACCESS TECHNOLOGIES

Ghaziabad (Near Delhi), India

20-24 May 2019

INFORMATION NOTE

1. INTRODUCTION

The ITU Centre of Excellence face-to-face training course on “EVOLUTION AND EMERGING TREND OF BROADBAND ACCESS TECHNOLOGIES”, 20-24 May 2019, ALTTC (CoE), India will be organized jointly by the International Telecommunication Union and the Advanced Level Telecom Training Centre (ALTTC) as part of the Wireless and Fixed Broadband programme under the auspices of the ITU Centre of Excellence for Asia-Pacific.

2. VENUE OF THE TRAINING

Advanced Level Telecom Training Center (ALTTC), Ghaziabad (Near Delhi), Uttar Pradesh, India

3. COORDINATORS

INSTITUTE COORDINATOR

Mr. Subhash Chand
Principal General Manager
ALTTC, Raj Nagar, Ghaziabad,
UP, INDIA -201002; subhash.iitr83@gmail.com
+91 120 2755122 (Works); +91 9868202123 (Mobile)

Mr. Manoj Kumar Mishra
DGM (BB), ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -
201002; dgm.bberp.alttc@gmail.com (Email)
+91 9412739234(Mobile)

Mr. Anand Kumar
AGM (BB), ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -
201002; anandkumarbsn121@gmail.com
+91 120 2755040 (Works), +91 94127 39248 (Mobile)

ITU COORDINATOR

Mr. Ashish Narayan
Program Coordinator,
ITU Regional Office for Asia-Pacific
5th Floor, Thailand Post Training Centre,
111 Moo3 Chaengwattana Road, Laksi
Bangkok 10210,Thailand
ashish.narayan@itu.int
+66 257 500 55 (Works)
+66 257 535 07 (Fax)

4. REGISTRATION

Registration is online (<http://academy.itu.in>). Please also provide the registration form at Annex II-A and II B and submit through email to Mr. Manoj Kumar Mishra (dgm.bberp.alttc@gmail.com), Mr. Anand Kumar (anandkumarbsn121@gmail.com) and to Mr. Ashish Narayan (ashish.narayan@itu.int).

5. VISA FORMALITIES

For Visa, participants are advised to visit and consult Indian Embassy in that particular country of participants. Participants if require, can be assisted by ALTTC, BSNL, Ghaziabad by providing them with invitation support letter for obtaining VISA . It is provided once ITU confirms the nomination of the candidate and there is request from ITU and Participants.

E Visa: There is also a possibility to obtain e-Visa for eligible countries. Details are available at <https://indianvisaonline.gov.in/visa/tvoa.html>.

6. ACCOMMODATION

Rates for Lodging and Boarding at ALTTC, Ghaziabad are as follows.

HOTEL ACCOMMODATION

Fortune Inn Grazia (around 500 m from training venue) (https://www.fortunehotels.in/ghaziabad-fortune-inn-grazia.dh.3) Address: Plot No.1, ALT Road, Sector-23, Ghaziabad, UP 201002. Phone: +91 120 398 8442
Citrus Hotel (around 2 Km from training venue) Address: C - 2, Mahaluxmi Mall, Raj Nagar District Centre, UP 201002, Phone: +91 120 450 105
Country Inn and Suites– Sahibabad (around 15 Km from training venue) (https://www.countryinns.com/hotels/rates/indsahi/new) Address: 64/6, Site-Iv, Sahibabad, Ghaziabad, Uttar Pradesh 201010. Phone: +91 120 418 0000
Radisson Blu – Kaushambi (around 20 km from training venue) (https://www.radissonblu.com/en/hotel-kaushambi) Address: H-3, Modipon Vihar, Sector 14, Kaushambi, Ghaziabad, Uttar Pradesh 201010. Phone: +91 120 473 6200

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 Ghaziabad, UP - 201 002	With all meals included INR 3300 per day

Participants are requested to make reservation in hotels suggested above or any other hotel of their choice and convenience. In case any assistance is required, the training coordinators may be contacted.

7. DETAILS OF ARRIVAL AND TRANSPORT

Pick up and Drop arrangement from / to the Indira Gandhi International Airport, New Delhi shall be at the cost of INR 10,000 (Indian Rupees Ten Thousand Only). This payment can be made at ALTTC, Ghaziabad. Please fill Annex II-C and return to the organizers.

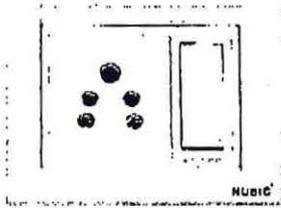
8. CURRENCY

The Indian currency is Indian Rupees INR. 1 USD = 71.0440 INR US Dollar to Indian Rupee Conversion (date 24 Feb 2019)

Source: <https://www.xe.com/currencyconverter/convert/?Amount=1&From=USD&To=INR>

9. ELECTRICAL APPLIANCES

- The voltage in India is 220 volts.
- Type of electricity plugs used



10. LANGUAGES

The course will be conducted in English.

11. SECURITY

The City, Ghaziabad, is peaceful in view of law and order situation. This is part of National Capital Region (Near by New Delhi, Capital of India.) For the purpose of law and order in the district there is police organisation which is headed by a Senior Superintendent of Police. Frequent police/ security Mobile vans are seen to assist people in the city. However, it is advised to participants not to move alone in night in order to avoid any unpleasant situation. Trainees are advised to always carry their I-Card and visa papers. By and large, Ghaziabad is safe and secure.

12. MEDICAL AND HEALTH

There is no medical insurance provided by the organizers

Emergency medical facilities at AL TTC, Ghaziabad: There is Government Hospital near the training centre, AL TTC, Ghaziabad. Very near to training centre, there is a private Hospital named Gargi hospital, where trainees in emergency can avail paid medical facilities. Emergency doctor's service at call can be availed by trainees at their own cost. All medical expenses has to be beard by participants them self. However, AL TTC will assist them in getting best medical facilities.

It is advisable for visitors to always drink bottled mineral water having ISI Mark. In training Centre, there is provision of both RO and bottled water. Trainees are advised to avoid street food and open water, supplied by street vendors. It is advisable to bring antibacterial hand-wipes with you.

13. WEATHER

The overall weather of Ghaziabad is pleasant and comfortable. Ghaziabad experiences summer, monsoon and winter and the best time to visit this city is from October to March.

Summer in Ghaziabad: Ghaziabad's hot and humid summers begin in May and end in July. June is the hottest month with the average maximum temperature soaring to around 38° C.

Monsoon in Ghaziabad: Monsoons take place in the months of July and August. These months bring a good amount of rainfall with July receiving maximum rains.

Winter in Ghaziabad: Winters are chilly and carry on from November to the end of January. It is a good time for sightseeing and general tourist activities.

The climate is mild, and generally warm and temperate. The average annual temperature is 25.1 °C in Ghaziabad. The average annual rainfall is 810 mm.

14. INTERNET

At training Centre AL TTC, BSNL, Ghaziabad Internet is available . Hostel and Classrooms are wifi enabled and internet facilities can be availed. It is secured and looked by our IT Team.

Annexure – II A



ITU CoE Face to Face Training Programme
**EVOLUTION AND EMERGING TREND OF BROADBAND
 ACCESS TECHNOLOGIES**
 20-24 May 2019



ALTTC, Ghaziabad, India

REGISTRATION FORM

To be returned through email to:
 Mr. Manoj Kumar Mishra (dgm.bberp.alttc@gmail.com) and
 Mr. Anand Kumar (anandkumarbsn121@gmail.com)
 CC: Mr. Ashish Narayan (ashish.narayan@itu.int)

Before 25th April 2019

Please complete the form below using CAPITAL LETTERS

Name: (As per Passport)			
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			
Pick / Drop from Airport			

Note: International participants are requested to provide scanned copy of Passport along with registration form.



ITU CoE Face to Face Training Programme
**EVOLUTION AND EMERGING TREND OF BROADBAND
 ACCESS TECHNOLOGIES**
 20-24 May 2019



ALTTC, Ghaziabad, India

FEE PAYMENT DETAIL (IF PAID TO ALTTC)

To be returned through email to:

Mr. Manoj Kumar Mishra (dgm.bberp.alttc@gmail.com) and

Mr. Anand Kumar (anandkumarbsn121@gmail.com)

CC: Mr. Ashish Narayan (ashish.narayan@itu.int)

Before 25th April 2019

Name: (As per Passport)	FIRST NAME			LAST NAME		
	MIDDLE NAME					
Passport No. (If applicable)			Nationality			
Email ID						
Fee Paid	<input type="checkbox"/> US Dollar 275		<input type="checkbox"/> Indian Rupee 19,580			
Mode of Payment	<input type="checkbox"/> Online		<input type="checkbox"/> Bank Transfer			
Transaction Reference No.						
Date and Time of Transaction						

Annexure – II C



ITU CoE Face to Face Training Programme
 EVOLUTION AND EMERGING TREND OF BROADBAND
 ACCESS TECHNOLOGIES
 20-24 May 2019



ALTTC, Ghaziabad, India

ACCOMMODATION RESERVATION / PICKUP-DROP ARRANGEMENT

To be returned through email to:

Mr. Manoj Kumar Mishra (dgm.bberp.alttc@gmail.com) and

Mr. Anand Kumar (anandkumarbsnl21@gmail.com)

Before 25th April 2019

Please complete the form below using CAPITAL LETTERS

Name: (As per Passport)			
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			
Accommodation Reservation	<input type="checkbox"/> JC Bose Hostel, ALTTC	<input type="checkbox"/> Hotel / Own Arrangement	
Date of Arrival	Flight No.		Time
Date of Departure	Flight No.		Time
Pick / Drop from Airport	Required		Not Required



Annexure – I

ITU Centres of Excellence Network for Asia-Pacific Region
Advanced Level Telecom Training Centre
FACE-TO-FACE Training Course on
EVOLUTION AND EMERGING TREND OF BROADBAND ACCESS TECHNOLOGIES
Ghaziabad (Near Delhi), India
20-24 May 2019

COURSE OUTLINE

COURSE DESCRIPTION

Title	ITU CoE Training Programme on "EVOLUTION AND EMERGING TREND OF BROADBAND ACCESS TECHNOLOGIES"
Objectives	<ul style="list-style-type: none"> • To understand technical trends and market status of broadband wired line and wireless access networks. • To understand Next Generation Access –High speed (Broadband) IP based connectivity, ADSL, VDSL, Wi-Max, FTTH, BoPL etc. • Mobile broadband: Networks, technologies and QoS. • Optical fibre backhaul network: issues and trends. • Next generation network architecture and services. • Addressing Security Challenges of Broadband Network Access Technologies. <p>Discussion sessions along with field visit of deployed broadband network nodes will also be conducted to promote dialogue and exchange of experiences among participants.</p>
Dates	20-24 May 2019
Duration	5 days
Registration deadline	25 April 2019
Training fees	International participants: USD 275 (Tax Inclusive) per participant. Local participants: USD 275 (Tax Inclusive) or INR 19580/- (Tax inclusive) per participant.
Course code	

LEARNING OUTCOMES

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

- The key business drivers of broadband, broadband network elements, network architectures for access, aggregation and core.
- Emerging trends in access control.
- Design & develop portal for precise monitoring and managing different network elements of access technologies.
- Vulnerability assessment and penetration testing on broadband network and security implementation.
- Use of social media for secure communication and monitoring of broadband network elements.
- The relationship between price regulation and costing.
- Broadband network project planning in an NGN converged environment.

TARGET POPULATION

This training is primarily targeted at participation of experts from regulators, government organizations and telecom operators, in-charge of costing and network planning issues are welcome.

TUTORS/INSTRUCTORS

S.No.	NAME OF TUTOR(S)/ INSTRUCTOR(S)	Position	CONTACT DETAILS
1.	Mr. M. K. Seth	Chief General Manager, ALTTC, BSNL, Ghaziabad, India	cgm_alttc@bsnl.co.in +91 94122 18777
2.	Mr. Subhash Chand	PGM, ALTTC, BSNL Ghaziabad, India	subhash.iitr83@gmail.com +91 9868202123
3.	Mr. Manoj Kumar Mishra	DGM (BB&ERP), ALTTC, BSNL Ghaziabad, India	dgm.bbep.alttc@gmail.com +91 9412739234
4.	Mr. H K Dixit	DGM(Tx & Mobile), ALTTC, BSNL Ghaziabad, India	dkshlthk@rediffmail.com +91 9412739065
5.	Mrs. Suresh Devi	DGM(IT), ALTTC, BSNL Ghaziabad, India	Sureshdevi7009@gmail.com +91 9412739242
6.	Mr. Abhay Gupta	Assistant General Manager, ALTTC, Ghaziabad, India	abhaybpl@gmail.com +91 9412739319
7.	Mr. Anand Kumar	Assistant General Manager, ALTTC, Ghaziabad, India	anandkumarbsnl21@gmail.com +91 9412739248
8.	Mr. Vikas Nigam	Assistant General Manager, ALTTC, Ghaziabad, India	nigamvikas06@gmail.com +91 9412739314
9.	Mr. Naresh Singh	Assistant Director, ALTTC, Ghaziabad, India	nareshsingh@bsnl.co.in +91 9412000939

10	Mr. Rajeev Sharma	Assistant Director, AL TTC, Ghaziabad, India	at.rajeev@gmail.com +91 9412774506
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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%

TRAINING SCHEDULE AND CONTENTS / AGENDA

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

Agenda (for face-to-face trainings)

20 May	Topic
Session 1	Registration, welcome and keynote address
Session 2	Next generation broadband wireline access technologies
Session 3	Broadband network components & connectivity
Session 4	Role and scope of broadband network servers

21 May	Topic
Session 1	ISP core network architecture
Session 2	Strategic broadband planning: market retention & capturing
Session 3	Broadband deployment case study
Session 4	Visit to broadband & MPLS lab
Session 5	Quiz 1

22 May	Topic
Session 1	Evolution of Fibre based high speed broadband access: GPON/GEAPON Technologies, ITU G.984.x standards for GPON, DWDM
Session 2	OTN and CPAN as digital infrastructure for high speed Broadband
Session 3	Visit to OTN & CPAN lab
Session 4	Next Generation Core/Control Network

23 May	Topic
Session 1	Roll out of broadband services through NGN
Session 2	Visit to NGN & IMS lab
Session 3	ITU's IMT series and mobile internet architectures transitions
Session 4	3.9G and 4G mobile broadband: LTE/LTE Advanced

24 May	Topic
Session 1	Next Generation Broadband: Wi-Fi Access, Li-Fi
Session 2	Mobile Broadband: QoS Parameters
Session 3	Next Generation Mobile Broadband: 5G

Session 4	Quiz 2
Session 5	Validation, and Feedback

METHODOLOGY

The face-to-face program will include

- o Instructor-led presentations,
- o Case studies,
- o Group exercises
- o Assignments
- o Field visit to NGN labs etc.

COURSE COORDINATION

<p>Institute Head: Mr. MK 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. Subhash Chand Principal General Manager ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -201002 subhash.iitr83@gmail.com (Email) +91 120 2755122 (Works) +91 9868202123 (Mobile)</p>	<p>Training coordinators: Manoj Kumar Mishra DGM(BB), Room No. 2103, Academic Building, ALTTC, Raj Nagar, Ghaziabad(U.P), INDIA-201002 dgm.bberp.alttc@gmail.com +91 120 2755620 (Works) +91 94127 39234 (Mobile)</p> <p>Anand Kumar AGM (BB), Room No. 2101, Academic Building , ALTTC , Raj Nagar, Ghaziabad(UP), INDIA -201002 anandkumarbsnl21@gmail.com +91 120 275 5040 (Works) +91 941 273 9248 (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 PAYMENT

ITU Academy portal account

Registration and payment should be made online at the ITU Academy portal.

To be able to register for the course you **MUST** first 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

Training registration

When you have an existing account or created a new account, you can register for the course online at the following link: (<http://academy.itu.in>)

You can also register by finding your desired course in our training catalogue https://academy.itu.int/index.php?option=com_joomla&view=coursescatalogdomain&Itemid=478&lang=en

Payment

1. On-line payment

A training fee of USD 275 per participant is applied for this training. Payments should be made via the online system using the link mentioned above for training registration at (<http://academy.itu.in>)

2. Payment by bank transfer

Where it is not possible to make payment via the online system, select the option for offline payment to generate an invoice using the same link as above. Download the invoice to make a bank transfer to the ITU bank account shown below. Then send the proof of payment/copy of bank transfer slip and the invoice copy to Hcbmail@itu.int and copy the course coordinator. **All bank transaction fees must be borne by the payer.** Failure to submit the above documents may result in the applicant not being registered for the training.

3. Group payment

Should you wish to pay for more than one participant using bank transfer and need one invoice for all of them, create an account as focal point by following the steps below:

STEP 1: For the creation of the focal point account please proceed to:

https://academy.itu.int/index.php?option=com_joomla&view=register&msg=registration&lang=en
Choose "@registration for focal points", and create an account by using an email address which has not been used for any other ITU Academy account before.

STEP 2: After the creation of a focal point account, login with that username on the ITU Academy platform and create a group of users by selecting "create new group". Then, you will have to search and add all the participants you will pay for.

STEP 3: Finally, as a focal point go to the course that you have selected and click on "Book this course", and then choose "Online payment" (by credit card for the whole group). Follow the next steps until the payment is completed for the whole group at once. Alternatively, download a group invoice by selecting the "Offline payment" option.

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- 19WS24257ASP-E-P.40593.1.04

4. Other methods of payment

For local participants, who would like to pay in local currency, training fee of INR 19,580 (Tax Inclusive) 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 IFSC code: SBIN0000642