



ਆਈ. ਕੇ. ਗੁਜਰਾਲ ਪੰਜਾਬ ਟੈਕਨੀਕਲ ਯੂਨੀਵਰਸਿਟੀ ਜਲੰਧਰ, ਕਪੂਰਥਲਾ
I.K. GUJRAL PUNJAB TECHNICAL UNIVERSITY JALANDHAR, KAPURTHALA
Office of Corporate Relations & Alumni

Ref. No. IKGPTU/CRA/ 10.....

Dated 25 May, 2023

**Directors/Principals/Incharge
All the University Campuses & Affiliated Colleges
I K Gujral Punjab Technical University**

Sub: Summer Training on Broadcast Technology for students of Engineering Degree /Diploma Courses for Students perusing Engineering Degree/Diploma Courses IInd & IIIrd year B.E./ B.Tech. Students of Engineering Colleges in Electronics and Communication Systems/Electrical & Electronics, CS, Electronics, IT discipline from 19.06.2023 to 14.07.2023 (Four Weeks)

Sir/Madam

Circular File No. TR-13016/5/2023-TRAINING CELL (T)-NABM DELHI dated 16 May 2023 has been received from Additional Director General (Trg.) on the subject cited above. (Copy attached)

You are requested to please direct the Training & Placement Officer of your Colleges and Institutions to circulate the information to all the concerned students.

For any queries you may call Dr. Mrigender Singh Bedi, Assistant Director (CR&A), IKGPTU @ +91- 9478098076.

With profound regards,

Deputy Director
(Corporate Relations & Alumni)

"Propelling Punjab to a prosperous Knowledge Society"

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प्रसार भारती / PRASAR BHARATI
(भारत का लोक सेवा प्रसारक/India's Public Service Broadcaster)
राष्ट्रीय प्रसारण एवं मल्टीमीडिया अकादमी, दिल्ली
National Academy of Broadcasting and Multimedia
किंग्सवे, दिल्ली-110009 / Kingsway, Delhi-110009
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File No: TR-13016/5/2023-TRAINING CELL(T)-NABM DELHI

Dated: 16.05.2023

CIRCULAR

Subject: Summer Training on Broadcast Technology for students of Engineering Degree/Diploma Courses for Students perusing Engineering Degree/Diploma Courses IInd & IIIrd year B.E./ B.Tech. Students of Engineering Colleges in Electronics and Communication Systems/Electrical & Electronics, CS, Electronics, IT discipline from 19.06.2023 to 14.07.2023 (Four Weeks).

National Academy of Broadcasting and Multimedia (NABM) is the apex in-house training Academy of All India Radio & Doordarshan under Prasar Bharati. NABM primarily caters to the training needs of personnel of Prasar Bharati. The academy has two campus one at Delhi and the other at Bhubaneswar and one regional academy (RABM) functioning at Shillong. The Academy conducts around 125 courses every year and imparts training to large number of broadcast professionals. Broadcasters/ media professionals from broadcasting organizations of the neighbouring countries also regularly participate in the academy's training programmes. It also organizes training in collaboration with AIBD for its member organizations. **As part of our endeavour to make broadcasting field accessible to new generation, we conduct summer training program for engineering college students.**

This year we are pleased to inform that summer vocational training for the Engineering students of IInd & IIIrd year (BE/B Tech)/Diploma in "Electronics and Communication Systems/ Electrical & Electronics, CS, Electronics, IT discipline" have been scheduled by NABM, Delhi in the ensuing summers as per details given below:-

- Course duration is of four weeks which is scheduled from **19.06.2023 to 14.07.2023.**
- Course fee is Rs. 1000/- per week + GST @ 18 % (Rs 4720/ for four weeks). The fee is payable online or through Demand Draft in advance. The details will be intimated to the selected candidates.
- **Structure of Course:** The course consists of major topics related to Broadcast Engineering including the following:-
 - Radio and Television transmission Systems: Analog and Digital broadcast systems, Digital Video broadcasting, live streaming.
 - Radio and Television Studio: Microphones, Audio-Video Consoles, Vision Mixer, Production Switcher, TV Studio Lighting, Camera optics, Camcorders etc.

- Satellite Communication: Link Budget Calculations, C/No, Direct-to-Home (DTH), Earth station, etc.
- Measuring Equipment: Spectrum Analyzer, Site Master, DVB-T2 Analyzer, Digital Waveform Monitor, Audio Analyzer, Vector Impedance Meter, etc.
- Modern Trends in Broadcasting: New Media, Cloud, OTT, 5G, Social Media & Broadcasting , 4K & 8K , File based workflow in TV and radio studios, immersive video AR & VR(augmented reality and virtual reality) etc.

1. The aim of vocational training has been fulfilled by preparing various videos of different topics of the lectures, some of them are

- Measurement using spectrum analyzer, site master.
- Visit to DDK and AIR set ups through video.
- Visit to High Power Transmitter TV and Radio through video
- DTH dish tuning,
- TV Studio lighting.
- Ac Maintenance.

2. After attending this summer training, participants will be able to understand the functioning of various Radio and TV equipments and its setup as mentioned below:-

- **Functioning of TV camera:** most television studio cameras stand on the floor, usually with pneumatic or hydraulic mechanisms called pedestals to adjust the height and position in the studio. The cameras in a multiple-camera setup are controlled by a device known as a camera control unit (CCU), to which they are connected via a Triax, Fibre optic or the almost obsolete multicore cable. The CCU, along with Genlock and other equipment, is installed in the central apparatus room (CAR) of the television studio. A remote control panel in the production control room (PCR) for each camera is then used by the vision engineer(s) to balance the pictures after the training, participants will be able to understand the functioning of TV camera and its setup.
- **Functioning of TV Studio:-**A typical TV studio has the following installations after the training they will be able to understand the functioning and application of various TV studio equipment like...

i.	Professional video camera (sometimes one, usually several), typically mounted on pedestals
ii.	Microphones
iii.	Stage lighting rigs and the associated Lighting control console, although it is often located in the production control room (PCR)
iv.	Several video monitors for visual feedback from the PCR
v.	A small public address system for communication
vi.	A glass window between the PCR and studio floor for direct visual contact is often desired, but not always possible
vii.	A teleprompter operator, especially if this is a live television news broadcast
viii.	Character generator (CG)
ix.	Digital video effects (DVE) or Virtual TV studio
x.	Video routers
xi.	Vision mixer (video switcher)
xii.	Lighting
xiii.	VTRs

- **Functioning of Radio Studio:** there are various equipment like audio console, mikes, computer based recording system, radio studio automation software, phone in console etc. in Radio Studio setup after the training they will be able to understand the functioning and application of various aspect of Radio Studio setup
- **Functioning of TV Transmitter (DTT, DVB-T2):** A television transmitter is a transmitter that is used for terrestrial (over-the-air) television broadcasting. It is an electronic device that radiates radio waves that carry a video signal representing moving images, along with a synchronized audio channel, which is received by television receivers ('televisions' or 'TVs') belonging to a public audience, which display the image on a screen, after the training they will be able to understand the functioning of various component of TV Transmitter (DTT, DVB-T2).
- **Functioning of Radio Transmitter:** - a radio transmitter or just transmitter is an electronic device which produces radio waves with an antenna. The transmitter itself generates a radio frequency alternating current, which is applied to the antenna. When excited by this alternating current, the antenna radiates radio waves, there are various types of Radio transmitters i.e Medium wave (AM), FM in our network, after the training they will be able to understand the functioning of various component of these Transmitters.
- **Functioning of Earth Station:** Earth Station is also known as the ground station is an arrangement of various equipment on the surface or atmosphere of the earth that is used to transmit or receive signals in the form of voice, video, or data through single or multiple satellites. It is sometimes called the earth terminal and is a part of the ground segment of the satellite network, there are various equipments related to this setup like HPA, up converter, Modulator, PDA etc. In addition to this the concept of link budget will also be covered, after the training they will be able to understand the functioning and application of various aspect of Earth Station setup.
- **Tuning of DD Free Dish DTH:-** Direct-to-Home (DTH) television is a method of receiving satellite television by means of signals transmitted from direct-broadcast satellites to the home of subscribes . The Government of India (GoI) permitted the reception and distribution of satellite television signals in November 2000. DD Free Dish, the first free DTH service in India, was launched by public broadcaster Prasar Bharati in December 2004. The concept DTH, dish tuning, installation of DTH setup (Receive) will be covered under this course, after the training they will be able to understand the functioning and application of various aspect of DD Free Dish DTH setup.
- Cleaning & maintenance of split & window AC.
- Spectrum Analyzer (A spectrum analyzer measures the magnitude of an input signal versus frequency within the full frequency range of the instrument).
- Site Master (VSWR measuring instrument)

It is mandatory for the participant to actively participate in the training. Completion certificate will be awarded only to those candidates who will participate actively & regularly in the training.

Interested students may send nomination by Google form link

<https://forms.gle/3eU5YTph4FyKz3658>

Remarks:

1.	Nomination letter from college and online fee payment/ demand draft may be submitted on or before 02.06.2023 .
2	Nomination will be confirmed only after submission of course fee.
3	Once submitted course fee will not be refunded.
4	Minimum 15 no. of nominations are required to conduct the summer training.

For further information, please feel free to contact us through email

nabmctc.tt@prasarbharati.gov.in.



(सुखजीत सिंह/Sukhjeet Singh)
निदेशक (अभि.)/Director (Engg)

कृते अपर महानिदेशक (प्रशिक्षण)/for Additional Director General (Trg.)

सूचनार्थ/Copy for information to:-

1. The Director General, All India Radio (Kind Attention: Sh. Anurag Kulshreshtha, ADG(E), Akashvani Bhavan, Sansad Marg, New Delhi-110001.
2. The Director General, Doordarshan , [Kind Attention: Sh. Rajesh Jain , ADG (E)], Mandi House, Copernicus Marg, New Delhi-110001.
3. The Additional Director General (Training), NABM Delhi -110009.
4. Prasar Bharati Secretariat, (CS),(Kind Attention: Sh. Sunil, ADG (Tech.)) ,Tower-3, Doordarshan Bhavan, Copernicus Marg, New Delhi-110001.
5. All Zonal Heads(Broadcast operation)- (NZ/SZ/ EZ/WZ/NEZ)

कृते अपर महानिदेशक (प्रशिक्षण) / for ADG (Trg.)