प्रसार भारती / **PRASAR BHARATI**

(भारत का लोक सेवा प्रसारक/India's Public Service Broadcaster)

राष्ट्रीय प्रसारण एवं मल्टीमीडिया अकादमी

NATIONAL ACADEMY OF BROADCASTING & MULTIMEDIA

किंग्सवे, दिल्ली-110009 / Kingsway, Delhi-110009

NAMB/TC/224085(Summer Trg) /2022-23   Dated: 25.04.2022

<u>**CIRCULAR**</u>

Subject: **Summer Vocational Online Training for IInd & IIIrd year B.E./ B.Tech. Students of Engineering Colleges in Electronics and Communication Systems discipline through Webex platform scheduled from 13 June-08 July, 2022 (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 about 106 courses online last year and trains around 9173 personnel. Broadcasters/ media professionals from broadcasting organizations of the neighboring 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 endeavor 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) in "Electronics and Communication Systems" discipline have been scheduled by NABM, Delhi in the ensuing summers **through webinar due to spread of coronavirus** as per details given below:-

➢ Course duration is of four weeks which is scheduled from **13th June to 8th July 2022.**

➢ Course fee is Rs. 1000/- per week + GST @ 18 % (Rs 4720/ for four weeks). The fee is payable online or through Demand Draft in favor of **PRASAR BHARATI** payable at **NEW DELHI**. 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 like AM/FM/Digital Radio Mondiale (DRM),Digital Video broadcasting second generation terrestrial (DVBT2)

• 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(augumented reality and virtual reality) etc.

• No project work. In this time of Covid-19.

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 the completion of the training the participant can be allowed to visit nearest AIR/DDK station of their city. (Those who have submitted attached attested copies of their I CARDS).

3. After attending this online summer training, participants will be able to understand the functioning of various Radio and TV equipments and its setup through online classes supported by video as much as possible a mentioned below:-

- **Understand the 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.

- **Understand the 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. Camera control units (CCU)
    x. Digital video effects (DVE) or Virtual TV studio
    xi. Video routers
    xii. Vision mixer (video switcher)
    xiii. Lighting
    xiv. VTRs

- **Understand the 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

- **Understand the 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).

- **Understand the 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.

- **Understand the 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.

Selected nominees may participate in the aforesaid webinar through smart phones or PC/Laptop having good internet connectivity, preferably broadband by using "CISCO Webex client for Meetings App from Google Play Store or by clicking on Webex Client for Meetings App. A link for "PASSWORD with USER ID for participation via Webex Client for Meetings App will be provided to individual invitees through e- mails. Any other modalities of webinar will be emailed subsequently.

Interested students may send confirmation on email id (**nabmctc.tt@prasarbharati.gov.in**) along with their particulars i.e. their Name, College, email id and mobile number (with WhatsApp no.) to register in foresaid online training, the last due date is 21/05/2022. Nomination letter from college and online fee payment/ demand draft may be submitted before start of the training program. Further instructions will be shared with participants who register for the training Programme.

Note:-

- Minimum 15 no. of nominations are required to conduct the summer training.
- Good internet speed is mandatory.

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

A.K.Gupta, Director (Engg)