



# National Institute of Training for Standardization (NITS) Bureau of Indian Standards

## 2 DAY CLASSROOM TRAINING ON MEASUREMENT UNCERTAINTY 28-29 FEB 2024



### LEARNING OBJECTIVES

- **Clear** understanding of Basic Statistical Concepts.
- **Know** the factors responsible for measurement uncertainties (MU)
- Identify these factors for your testing/ calibration.
- **Carry** out the statistical calculations for evaluation of the MU
- Formulate effectively Quality Control Plan for the laboratory utilizing the uncertainty of measurements.
- Understanding a testing activity in terms of mathematical model, to be able to identify the significant control factors for accuracy or validity of results.

### TRAINING METHODOLOGY

- Interactive Classroom Sessions.
- Workshops, case studies, and auditing exercises.
- Soft copy of all training material.



### WHO SHOULD ATTEND

- Technical Heads of testing and calibration laboratory, including microbiological testing.
- Young engineers / scientists working in testing field and wants to enhance their career, with a formal added professional qualification and skill up-gradation.
- An individual working as consultant in ISO/IEC 17025 field.

### COURSE OUTLINE



- Overview and introduction of measurement uncertainty.
- Basics of statistical calculations and components of uncertainty.
- Step by step approach to uncertainty estimation.
- Estimating different types of uncertainties.
- Measurement uncertainty in calibration
- Concepts of combined and expanded uncertainty

### PRE-REQUISITES



Availability of a Computer/laptop with a stable internet connection with speakers, camera and mike.

### EXAMINATION/ CERTIFICATION

- Certificate with BIS logo on completion of course



### FEE AND DISCOUNTS



- Rs.7000 + 18 % GST = **Rs. 8260/-** per participant.
- Discount of 10% for 2-5 persons and 15 % for more than 5 persons from same organization.



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### PROCEDURE

The Application has to be made through BIS "Training Portal "as explained below

**VISIT** the **E-BIS Website:** [www.manakonline.in](http://www.manakonline.in)

**CLICK** on the "Training" Head

**LOGIN** by clicking on the blue "**LOGIN**" button on the top right corner

**SIGNUP** by clicking on "**SIGNUP**" on the Member Login Page if you are not a member otherwise "**SIGN IN**" using your credentials

**FILL OUT** all the fields and click on "**REGISTER**" and complete the registration process.

**CHOOSE** the course you want to apply for, fill in the required information and "**PAY**" the requisite fee.

### WHY CHOOSE NITS AS YOUR TRAINING PARTNER

- Advantage of being the National Standards Body of India.
- Rich pool of Trainers with decades of auditing experience across disciplines.
- Course contents developed by subject matter experts.
- Proven track record of delivering public, in-house, e-Learning for leading companies and recognized Government and private organizations.
- Focus on the provision of practical training using real life scenarios.
- Availability of customized training solutions.



**For any further queries, you may contact:**

Nishant Parasar

Course Coordinator, NITS

Email Id: [nits@bis.gov.in](mailto:nits@bis.gov.in)

Phone No. 0120-4670222,9599977846



राष्ट्रीय मानकीकरण प्रशिक्षण संस्थान, नोएडा  
NATIONAL INSTITUTE OF TRAINING FOR STANDARDIZATION, NOIDA  
भारतीय मानक ब्यूरो  
BUREAU OF INDIAN STANDARDS

## Nomination Form

Name of the Programme			
Date of the Programme		Venue:	
Sponsoring Organization (OR In Individual Capacity) with complete Address			
Telephone /Mobile Number			
Organization/Firm GST No.			
Email ID			

### Participants Details

Sl. No	Name (IN CAPITAL LETTERS)	Designation	Contact No.	Email
1.				
2.				
3.				
4.				
5.				

Will you stay in Hostel ?		If Yes, Please mention the date and time					
Yes	No	Arrival	Date	Time	Departure	Date	Time

### Details of Payment (in Rupees)

Training Fees *	Hostel Charges *	GST ##	Discount, if any	Total amount

### Mode of Payment

Name of Bank	UTR No. & Date of transaction # (for NEFT/Net banking/ IMPS/UPI payment)	Amount (in Rs.)

\* For Training/hostel fees, see NITS Training Calendar at BIS website [www.bis.gov.in](http://www.bis.gov.in). (Stay in hostel is charged on Night stay basis).

# For payments by **NEFT**, Payment should be made to **Bureau of Indian Standards, Savings A/c No. 712210100000650, Bank of India, Sec-62 Noida, Branch Code 7122, IFSC Code BKID0007122.**

## NITS GST No. 09AAATB0431G2Z8 , SAC Code: 999294 Applicable GST@ 18% on Training fee and Hostel fee.

Date: \_\_\_\_\_

Signature and Seal \_\_\_\_\_

The nomination form should preferably be scanned and e-mailed to [nits@bis.gov.in](mailto:nits@bis.gov.in), [hnits@bis.gov.in](mailto:hnits@bis.gov.in). and reach NITS at least one week before the programme date. For sending hard copy may be addressed to:

**Head , National Institute of Training for Standardization (NITS), Bureau of Indian Standards,  
A – 20 & 21, Institutional Area, Sector – 62, NOIDA - 201309, U.P.**

Phones: 0120 – 4670227 , 4670232, Email: [nits@bis.gov.in](mailto:nits@bis.gov.in), [hnits@bis.gov.in](mailto:hnits@bis.gov.in), Website: <http://www.bis.gov.in>

### Important :

- Participants are requested to get the confirmation from NITS, whether, nomination has been accepted or not **before attending the programme.**
- Rules for Refund of Training & Hostel Fees :**
  - A refund of full fees shall be made when cancellation/withdrawal of nomination is made **at least 15 days** in advance of the date of the training.
  - Cancellation/withdrawal of nomination is made **less than 15 days** in advance of the date of the training programme or is not informed, a **cancellation charge of 25 %** of the training fees would be levied. The balance amount after deducting the cancellation charges would be returned.
  - Hostel fees if any, paid in advance shall be returned in full.