



ESCI

Engineering Staff College of India
Autonomous Organ of The Institution of Engineers (India)
Old Bombay Road, GachiBowli, Hyderabad – 500 032.TS, India



Management & Technology Division

Level-II Certification in Ultrasonic Technique (In accordance with ASNT Document No.: SNT-TC-1A 2006) 04 – 08 December 2017



An ISO 9001:2015 Certified, AICTE & CEA Recognized Institution

Centre for Promotion of Professional Excellence

INTRODUCTION

Non Destructive Examination consists of a wide group of analysis techniques used in science and industry to evaluate the properties of a material, component or system without causing damage.

Non-Destructive Testing (NDT) is the process of inspecting, testing, or evaluating materials, components or assemblies for discontinuities, or differences in characteristics without destroying the serviceability of the part or system. In other words, when the inspection or test is completed the part can still be used and that too with more confidence.

Today modern non-destructive tests are used in manufacturing, fabrication and in-service inspections to ensure product integrity and reliability, to control manufacturing processes, lower production costs and to maintain a uniform quality level. During construction, NDT is used to ensure the quality of materials and joining processes during the fabrication and erection phases, and in-service NDT inspections are used to ensure that the products in use continue to have the integrity necessary to ensure their usefulness and the safety of the public

VARIOUS NDT TEST METHODS

Test method names often refer to the type of penetrating medium or the equipment used to perform that test. Current **NDT methods are:**

- Acoustic Emission Testing (AE),
- Electromagnetic Testing (ET),
- Guided Wave Testing (GW),
- Ground Penetrating Radar (GPR),
- Laser Testing Methods (LM),
- Leak Testing (LT),
- Magnetic Flux Leakage (MFL),
- Microwave Testing,
- Liquid Penetrant Testing (PT),
- Magnetic Particle Testing (MT),
- Neutron Radiographic Testing (NR),
- Radiographic Testing (RT),
- Thermal/Infrared Testing (IR),
- Ultrasonic Testing (UT),
- Vibration Analysis (VA) and
- Visual Testing (VT).

The six most frequently used test methods are **MT, PT, RT, UT, ET and VT**. ESCI proposes to conduct Training cum certification programme for Level -I/II in accordance with ASNT recommended practice SNT-TC-1A – 2006 for the conventional methods of **Ultrasonic testing - NDT techniques**.

The training will be conducted by experienced faculty in both theory and practical's. The duration and course schedules for individual processes and also collective programme including all these methods are given in following paragraphs.

OBJECTIVE:

The objective of this programme is to impart theoretical as well as practical knowledge in the fields of respective NDT. Certification of NDT techniques are issued on successful passing of the exam in the respective methods as per the ASNT recommended practice SNT- TC-1A-2006.

COURSE COVERAGE

1. Properties of Sound Waves
2. Generation of Ultrasonic waves
3. Interaction of ultrasound with matter and boundaries
4. Types of Probes
5. Test Methods
6. Test Equipment
7. Instrumentation
8. Test Variables
9. Inspection procedures
10. Types of Discontinuities
11. How to Set up and calibrate the equipment
12. Perform testing and interpret the results as per applicable standards
13. Merits and Demerits of Ultrasonic Testing.
14. To develop UT technique for testing a particular job
15. Report preparation of the inspection results.
16. Prepare written instruction for Level I.
17. Responsible for care and maintenance of the NDT/UT equipment
18. Identify suitability of UT for the material and inspection technique
19. Be familiar with codes, standards and specifications for UT to evaluate results of the tests.

METHODOLOGY: Methodology of the programme includes class room Sessions with Lecture/discussion with audio visual aid, short videos, documentaries etc. All the sessions will be interactive demanding active participation from all the members. The sessions will also include Quizzes and case studies. CMI will be the main mode of facilitating the programme. Majority of the sessions will be imparted through practical training on the respective test equipment. There will be a pre-test & one certification clearance exam. Min marks for the award of certificate will be 80%.

PROGRAMME ADVISORS AND RESOURCE PERSONS:



MR. LELLA VENKATA RAMA RAO

He has SNT NDT Level-III certification in Ultrasonic Testing, Magnetic particle Testing and Liquid Penetrant Testing with over 25 years of progressive experience, trained and certified more than 100 engineering graduates in NDT techniques



Mr. N.B. Rengaraju ,

NDT-Level III Certified Professional

TARGET PARTICIPANTS:

This is an excellent course for NDT professionals who must have Level I and II training in order to qualify for certification as well as facility personnel who are responsible for or to oversee the application of testing or Quality Control/Quality Assurance.

BENEFIT TO THE PARTICIPANTS:

- A **Level II Technician** can calibrate, perform tests without supervision and make test assessments when required.
- It will provide platform to discuss on issues/problems individuals facing on LPT and arriving at solutions. They will also get practical exposure on finer issues related to application and best practices for the test will be imparted.

Following documents data may please be carried by the participants.

- Qty. 5 passport size photographs for issue of certificates
- Vision certificate (Format Enclosed)

PROGRAMME VENUE, DATES & TIMINGS

Venue: Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachibowli, Hyderabad. 500032. TS, India.

Dates

04 – 08 December 2017

Timings

On the first day Registration will commence at 0900 h. On all other days the programme timings will be from 0945-1715 h with breaks in between for tea and lunch.

COURSE DIRECTOR



Gp Capt (Retd) BS Phillora BE (ETC), AE (L), MMS (DS), M Phil, FIE, Certified lead auditor ISO 9001-2015
*Dean of Studies ESCI & Sr. Faculty,
 Head, Management & Technology Division &
 Design & Prototyping Centre, ESCI*

COURSE FEE

Rs.25, 000/-(Residential Fee) per participant. Fee includes, course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme.

DISCOUNTS:

- ❖ **Non-Residential Fee** : 10% discount on course fee is allowed for non-residential participants.
- ❖ **Group Discount**: Additional 10% discount for three or more participants, if sponsored by the same organization.

(All discounts are applicable only if fee is received at ESCI before the commencement of the programme.)

Goods and Service Tax @ 18% is to be paid extra over and above the training fee. PAN Card No AAATT3439Q; **GST No. 36AAATT3439Q1ZV.**(Under commercial training or coaching services).

Programme fee is to be paid in favour of "IE (I)-Engineering Staff College of India" in the form of demand draft payable at Hyderabad at par cheques payable at any Bank Branches.

Alternatively, the payment may be made by Electronic Fund Transfer (EFT) to ESCI - **SB A/c No.0432104000039631 with The IDBI Bank Ltd., Gachibowli Branch, Plot No. 2-53/2, JNIBF, IIIT Junction, GachiBowli, Hyderabad-500032 by RTG's/ NIFT / IFSC Code No: IBKL0000432. ESCI PAN No. is AAATT3439Q.** While using EFT/ Draft method of payment, kindly forward a covering letter giving details on the names of the participants, Title and the programme schedule so that proper accounting can be done.

REGISTRATION:

Online registration shall be available on ESCI website. ([URL:www.escihyd.org](http://www.escihyd.org)) Please visit M&T Webpage: <http://www.escihyd.org/departments/management-technology/>

To register, manually please send your nominations giving details of name, designation, contact address, email address, mobiles no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to:

Head, Management & Technology Division

Engineering Staff College of India
 Old Bombay Road, GachiBowli, Hyderabad 500 032, TS, India
Phone: Direct 040 6630 4111& 6630 4112& 6630 4105
Fax : 040-23000336& 040 6630 4103
Email: mt@escihyd.org,

For Registration Please Contact:
 Mr. LV Rao
 Programme Manager,
 Land line 040 66304105
 Mob: 0 9949145865

CERTIFICATION

Following certificates will be awarded to each participant on UT Method:-

Level –II Certificate as per ASNT Document No :SNT-TC-1A 2006 will be awarded to each participant on successful conclusion and passing the exam of the programme.

ESCI Certificate: Participation Certificate; to all the participants undergoing the programmes.

GENERAL INSTRUCTIONS:

- ESCI encourages participants to present case studies from their respective organizations.
- For the convenience of outstation participants, ESCI will facilitate pick-up and drop from Airport / Railway Stations / Bus Stations, if travel plans are received at least 3 days in advance along with mobile number by fax or email. The charges shall be paid by the participant directly to the Cab.
- ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation)
- Well-developed Information Centre and Internet facilities are available to the participants.

Nominating authorities are requested to kindly send the contact details of the participants while sending their nomination letter. This will help us in making necessary administrative arrangement for them.

VISION CERTIFICATE

This is to certify that I have examined Mr. _____ of M/s.....as per the requirement given below and the results are recorded.

Sl. No.	Test Required	Minimum acceptable requirements	Readings	Result
1	Near vision result (Corrected or Natural)	To read Jaeger number 2 with at least one eye on a standard Jaeger test or equivalent at a nominal minimum distance or not less than 12 inches	Distance read Right eye: Left eye:	
2	Far vision (Corrected or Natural)	To read snellen eye chart at least one eye 20/30 symbols at a distance of 240 inches	Distance read Right eye: Left eye:	
3	Colour contrast differentiation	To distinguish minimum 20 shades of grey numbers on computer screen or on hard copy at a distance of 30-50cm under normal desktop working light condition.	No. of shades Read	
4	Colour contrast differentiation	To distinguish Red- Green Ishihara chart out of 25 plates, minimum 20 plates	No: of Plates Read.	

Signature & Seal of Ophthalmologist

Date of Examination

Name:

Address: