

## Nondestructive Testing Courses

**NDT Full Package (VT, PT, MT, RT, UT)**

**NDT Package (1)**

### Visual Inspection test Level I & II (VT)

**Course contents:**

- Introduction to visual inspection
- Welded joint (Geometry & Terminology)
- The common features of good welded joint
- Tools for visual inspection
- Welding defects
- Visual inspection of welded joints:
  - ⇒ Before welding
  - ⇒ During welding
  - ⇒ After welding
- Documents governing welding inspection & qualification
- Code requirements API 1104
- Practical applications
- Preliminary Exam

**6 days / 25 hrs.**

### Liquid Penetrant test Level I & II (PT)

**Course contents:**

- Principle of Liquid Penetrant
- Test equipment & Materials
- Surface preparation & Penetrant application
- Penetrant removal & Developer application
- Final steps of penetrant processes
- Types of discontinuities
- Compatibility, equipment and safety
- Aspects, practical exercises, methods of assessing sensitivity

**5 days / 20 hrs.**

### Magnetic Particle test Level I & II (MT)

#### Course contents:

- Introduction of Magnetic Particle Test
- Principle of magnetism, magnetic fields (Circular & Longitudinal Magnetism)
- Induction & Permeability
- Current requirement
- Line of forces, Methods of testing, Interpretation of indication, Demagnetization, Practical Exercises, Methods of Assessing Sensitivity

5 days / 20 hrs.

### NDT Package (2)

### Radiographic test Level I & II (RT)

#### Course contents:

#### *Level (I)*

- Radiographic Equipment operating and emergency Instruction  
Personal Monitoring, Survey Instrument, Leak testing of sealed  
Radioactive source, Radiographic works practice.
- Basic radiographic physics  
Fundamental properties of matter, radioactive materials, Types of radiation, Biological effects of radiation, Radiation  
Detection, Exposure device and Radiation sources
- Radiography technique  
Basic principles of radiography, Radiographs, radiographic image quality, Film handling, loading and processing, Exposure techniques.

10 days / 40 hrs.

#### *Level (II)*

- Film quality and manufacturing processes course  
⇒ Review of basic radiographic principles  
⇒ Dark room facilities, techniques and processing  
⇒ Indications, discontinuities and defects  
⇒ Radiological safety principles review

- Radiographic evaluation and interpretation course
  - ⇒ Radiographic viewing
  - ⇒ Application techniques
  - ⇒ Evaluation of casting
  - ⇒ Evaluation of weldments
  - ⇒ Standards, Codes and procedures for radiography
  - ⇒ Practical session

### Ultrasonic test Level I & II (UT)

#### Course contents:

##### *Level (I)*

- Fundamental properties of sound
- Principles of wave propagation
- Generation of Ultrasonic waves
- Ultrasonic testing methods
- Ultrasonic testing equipment
- Specific testing procedure
- Variables affecting test results

##### *Level (II)*

- Review of basic ultrasonic principles
- Generation and reception of UT waves
- Calibration of UT equipment using straight & angle beam
- Selection of test parameters
- Welding defects & defects sizing techniques
- Testing of welded joints
- Variables affecting testing results
- Codes and standards
- Practical session

10 days / 40 hrs.