

Radiography Testing Level I

Level I - 40 hours

Training Course Outline

SCOPE

This course will prepare a candidate to perform Industrial Radiography

COURSE OUTLINE

Module 1: Types of Radiation

- Particulate Radiation – Alpha, Beta, neutron
- Electromagnetic radiation – X-Ray, gamma ray
- Energy Characteristics of common radioisotopes

Module 2: Scattering and Attenuation

- Photoelectric Effect
- Compton Scattering
- Linear Attenuation
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Module 3 Units and Radiological Safety

- Roentgen
- Rad
- Rem and Seivert
- Safe Boundary
- Inverse square law
- Shielding and half value layer

Module 4: Exposure Devices and Radiation Sources

- X-Ray Tube
- Seleninum-75, Ir-192, Co-60

Module 5: Detector Systems

- Film
- Imaging Plates – Computed Radiography
- DDA – Digital Detector Array

Module 6: Shadow formation and Geometrical unsharpness

- Shadow formation
- Sources of radiography
- Geometrical unsharpness

Module 7: Exposure Techniques

- Single Wall Exposure
- Double Wall Exposure
- Contact shot
- Panoramic

Module 8: Radiographic Sensitivity - Image Quality Indicators – IQI

- Wire Type
- Hole Type
- IQI Placement

Module 9: Shooting a Radiograph

- Film Type Selection
- Exposure Time and Density
- Radiographic Technique setup
- Setup and Geometrical Unsharpness
- Establishing 2mR boundary
- Sensitivity: IQI Selection and Placement
- Location markers

TRAINING PROGRAM EXAMINATIONS

- General
- Specific
- Practical

Candidates must score a minimum of 70 % in written tests, 80% in practicals and a minimum of 80% average for all the three tests.



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