Jubail Industrial College
Industrial Relations
Short Courses

COURSE TITLE	:	**LIQUID PENETRANT TESTING LEVEL-I (ASNT: SNT-TC-1A: 2011)**
SPONSORING DEPARTMENT	:	**NON DESTRUCTIVE TESTING (NDT) TRAINING CENTER**

COURSE DESCRIPTION:

This course will provide an understanding of Liquid Penetrant test. At the end of this course the candidate will be able to perform various Liquid Penetrant tests.

LEARNING OBJECTIVES:

- Brief history of liquid penetrant testing; Purpose of liquid penetrant testing.
- Basic principles & Types of liquid penetrant.
- Steps in Liquid Penetrant Processing & Various Penetrant Testing Methods.
- Characteristics & General applications of each method.
- Liquid penetrant testing units & Lighting meters.
- Materials & Precautions in liquid penetrant testing.
- Testing of many numbers of flawed specimens using various liquid penetration tests.
- Retaining sample to original state after testing.

COURSE OUTLINE:

- Hands-On Practical on weld specimens with Plate, Pipe, T, Nod and Nozzle configurations.
- Reviews & Discussions.
- Mock Up Tests, Home Works, and Examinations.
- Test will be conducted in 3 methods:
  1. General 2. Specific 3. Practical
- The candidate successfully completes the course if he gets a minimum score of 70% in each test (General, Specific and Practical) and a minimum of 80% for the average of 3 tests.

WHO SHOULD ATTEND THIS COURSE:

- Should be High School graduate of science branch (minimum recommended level of education).
- Should have a minimum experience of 70 hours in method and 130 hours in NDT.
- Certificates: Near Vision acuity (Jaeger Number 2 or Ortho-Rater 8), and Color Contrast Differentiation has to be submitted at the time of registration.

METHODOLOGY (THEORY/LAB. OR BOTH):

Theory and Lab.

MEDIUM OF INSTRUCTION:

English (course materials and visual aid packages are in English).

COURSE DURATION: 1 week

HOURS PER DAY: **7** hours TOTAL HOURS: **35** hours

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Short Courses

COURSE TITLE	:	**LIQUID PENETRANT TESTING LEVEL-II (ASNT: SNT-TC-1A: 2011)**
SPONSORING DEPARTMENT	:	**NON DESTRUCTIVE TESTING (NDT) TRAINING CENTER**

COURSE DESCRIPTION:

This course will provide the candidate with an understanding of Liquid Penetrant test. At the end of this course the candidate will be able to perform various Liquid Penetrant tests and do the interpretation of the result.

LEARNING OBJECTIVES:

- Review of Basic principles, Process of various methods and Equipment.
- Selection of the Appropriate Penetrant Testing Method.
- Advantages & Disadvantages of various methods.
- Inspection and Evaluation of Indications.
- General topics like discontinuities inherent in various materials, Appearance of indications, Time for indications to appear, Persistence of indications, Effects of temperature and lighting (white to UV).
- Effects of metal smearing operations, preferred sequence for Penetrant inspection.
- Part preparation & Factors affecting indications like Penetrant used, prior processing & Technique used.
- Indications & Evaluation of indications.
- Process control, Procedures and Standards.
- Applicable methods/processes.
- Standards/codes & Acceptance criteria based on the customer procedure.
- Testing of many numbers of flawed specimens using various liquid penetration tests.

COURSE OUTLINE:

- Hands-On Practical on weld specimens with Plate, Pipe, T, Nod and Nozzle configurations.
- Reviews & Discussions.
- Mock Up Tests, Home Works, and Examinations.
- Test will be conducted in 3 methods:
  2. General 2. Specific 3. Practical
- The candidate successfully completes the course if he gets a minimum score of 70% in each test (General, Specific and Practical) and a minimum of 80% for the average of 3 tests.

WHO SHOULD ATTEND THIS COURSE:

- Should be High School graduate of science branch (minimum recommended level of education).
- Should have a minimum experience of 140 hours in method and 270 hours in NDT.
- Certificates: Near Vision acuity (Jaeger Number 2 or Ortho-Rater 8), and Color Contrast Differentiation has to be submitted at the time of registration.

METHODOLOGY (THEORY/LAB. OR BOTH):

Theory and Lab.

MEDIUM OF INSTRUCTION:

English (course materials and visual aid packages are in English).

COURSE DURATION: 1 week

HOURS PER DAY: **7** hours TOTAL HOURS: **35** hours