Jubail Industrial College
Industrial Relations
Short Courses

COURSE TITLE	:	**Heat Exchanger Tube Scanning (ET, RFT, MFL & IRIS)**
SPONSORING DEPARTMENT	:	**NON DESTRUCTIVE TESTING (NDT) TRAINING CENTER**

COURSE DESCRIPTION:

Fundamentals: Principles of Electromagnetic Testing, Principles of Flux Leakage Testing, Eddy Current Instrumentation, Read Out Mechanisms, Eddy Current & Flux Leakage sensing elements, Test System Calibration. Test Frequency selection & Coupling factors, Factors affecting Eddy Current & Flux Leakage Techniques. Eddy Current & Flux Leakage Applications. Equipment: Operation, Calibration & Testing of MS 5800. Specific Application: Tube Inspection using ET, RFT, MFL & IRIS Methods.

LEARNING OBJECTIVES:

Upon completion of this course the trainees will be able to:

- Get familiarize with the basic Principles of Tube Inspection Methods (ET, RFT, IRIS & MFL).
- Get familiarize with the scope & limitations of each methods.
- Setup & calibrate equipment, MS 5800.
- Interpret & evaluate results.
- Write / Generate test Reports based on the Company Procedure.

COURSE OUTLINE:

- Hands-On Practical on large number of diversely flawed tubes. Mock up heat Ex-changers with artificial flaws incorporated on different tube material & dimensions.
- Daily Review & Discussions.
- Performance assessment & evaluation method: Mock up Tests, Home Works, and Examinations.

WHO SHOULD ATTEND THIS COURSE:

- Should be High School graduate of science branch (minimum recommended level of education).
- Should have industrial work experience (inspection, NDT, maintenance…), and preferably with good Ultrasonic Testing background.

METHODOLOGY (THEORY/LAB. OR BOTH):

Theory and Lab.

MEDIUM OF INSTRUCTION:

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

COURSE DURATION: 2 weeks

HOURS PER DAY: **8** hours TOTAL HOURS: **80** hours