Indian Institute of Technology
Course Details Report

Course No: OE6007

Course Name: Pipeline & Riser Engineering

Course Type:

Theory

Description:

To impart knowledge on subsea pipelines, design of risers and its components

Course Content:

Introduction to subsea pipelines; Pipeline arrival and discharge conditions; Pipeline hydraulics; Pipeline sizing; Friction loss; Temperature profile; Slug formation and control. Installation of pipelines in shallow and deep water; S and J lay methods; Pipe lay barges and vessels; Pipeline initiation and termination. Pipeline design for stresses in service conditions; Static and dynamic stability; Pipeline flexibility and span analysis; Cathodic protection design. Rigid and flexible risers; Design and installation of risers; Intelligent pigging; Pipeline corrosion monitoring; Pipeline crossings; Bonded and unbonded flexibles

Text Books:

1. Subsea Pipelines and Risers (First Edition) by Yong Bai and Qiang Bai, Elsevier, 2005.
2. Offshore Pipelines by Boyun Guo, Shanhong Song, Jacob Chacko and Ali Ghalambor, Elsevier, 2005.

Reference Books:

1. Deepwater petroleum exploration and production : A non-technical guide by William L. Leffler, Richard Pattarozzi, and Gordon Sterling, PennWell, 2003.
2. Subsea Pipeline Engineering, (2nd Edition) by Andrew C. Palmer and Roger A. King, PennWell, 2008.
3. Fundamentals of Marine Riser Mechanics by Charles P. Sparks, PennWell, 2007.