PE5050 Offshore Drilling and Production Practices

Course Content:

Ocean Environment for installation, Operation and Survival Condition; Exploratory, Production, Storage and Transportation, Platform installation and Positioning, Subsea Preparation. Deep-Water Platforms: FPSO, Semisubmersible, TLP and Spar with Case Studies including Transportation By Tankers and Pipelines. Difference Between onshore Drilling and offshore Drilling. Unconventional and Conventional Resources and Environmental Effects, Digital Oil Field, Oil Processing Facilities and Gas Processing Facilities: Upstream Well Planning, Risers for Shallow and Deep-Water Platforms, Corrosion inhibition in Pipelines, Case Studies on offshore Drilling Worldwide, Oil Spill and Safety Measures. anchors: Pile, Suction, torpedo, Dead Weight, Mushroom Etc. Calm, SPM, Mooring Dolphins and Booms, Selection Criteria, Moorings with and Without Buoys, Mooring alternatives- Dynamic Positioning Systems (DPS), Remotely Operated Vehicles (ROV) and Its Types. Viv in offshore Pipelines, Umbilical's and Risers, and Its Mitigation Measures.

Text Books:

1. **Subrata K. Chakrabarti,** Handbook of Offshore Engineering, Volume 1 and 2, Elsevier, 2005.
2. **Gregory Tsinker,** Marine Structure Engineering: Specialized applications, Springer, 1995.

Reference Books:

1. **James G Speight,** Handbook of offshore Oil and Gas Operations. Elsevier, 2011.
2. **Laik Sukumar,** Offshore Petroleum Drilling and Production. CRC Press, 2018.
3. **Huacan Fang and Menglan Duan,** Offshore Operation Facilities: Equipment and Procedures, Gulf Professional Publishing, 2014.
4. **Håvard Devold,** Oil and Gas Production Handbook. an introduction to Oil and Gas Production, Transport, Refining and Petrochemical industry. 2013.

Prerequisite:

NIL