

# **AMDE21 WELL COMPLETION TESTING AND WORK OVER**

## **UNIT-1 WELL DESIGN**

- 1.1 Prediction of formation pore pressure and stress gradients.
- 1.2 Determination of safety mud weight bounds for different in-situ stress conditions.
- 1.3 Design and planning well trajectory.
- 1.4 Surveying tools and methods.

## **UNIT-2 DESIGN OF DRILL STRING INCLUDING BOTTOM HOLE (BHA) ASSEMBLY**

- 2.1 Drilling methods and equipment for directional, horizontal and multilateral wells.
- 2.2 Selection of casing shoes, material properties and design of casing program.

## **UNIT-3 WELL COMPLETION AND STIMULATIONS**

- 3.1 Well completion design, types of completion, completion selection and design criteria.
- 3.2 Interval selection and productivity considerations: effects of producing mechanisms.
- 3.3 Inflow performance and multiple tubing performance analyses using commercial software.

## **UNIT-4 WELL STIMULATION AND WORKOVER PLANNING.**

- 4.1 Tubing-packer movement and forces.
- 4.2 Tubing design: graphical tubing design and simplified tensional strength design.
- 4.3 Selection of down hole equipment, tubing accessories and wellhead equipment.

## **UNIT-5 BASICS OF PERFORATION**

- 5.1 Selection of equipment and procedure for perforation oil and gas wells.
- 5.2 Technology of sand control: gravel packing.
- 5.3 Fundamentals of well stimulation technologies: acidization and hydraulic fracturing.

### **References Book:**

1. Standard Hand Book of Petroleum & Natural Gas Engineering” – 2nd Edition 2005- William C.Lyons & GaryJ.Plisga-Gulf professional publishing comp (Elsevier).