

# **PE-319 Reservoir Engineering-I**

## **Credit Hour**

Theory = 3

Practical = 1

## **Course Content**

### **Introduction**

Reservoir drive mechanisms, Fluid Pressure regimes

### **Reserves estimation**

Volumetric Estimation of Hydrocarbons Initially in Place (HCIIP). Material Balance Equation, Material Balance equation as a straight line and its applications, Reservoir Drive Indices

### **Fluid flow behavior**

Darcy law of fluid flow system and well performance/ productivity index. Modes of well operation and general pressure dynamics. Time to reach minimum bottom hole pressure and saturation pressure paths, two Phase flow with effective and relative permeability concepts, the basic differential flow equation in porous medium

### **Text Book**

1. Tarek Ahmed, "Reservoir Engineering Handbook", 4th edition, Gulf Professional Publishing, 2010

### **Reference Book**

1. B.C. Craft and M. Hawkins revised by Ronald E. Terry, Applied Petroleum Reservoir Engineering, 2nd Edition, Patience Hall PTR, 1991