

INSTITUTE OF PETROLEUM ENGINEERS, DEHRADUN

RESERVOIR ENGINEERING

RESOURCES

GATE PETROLEUM

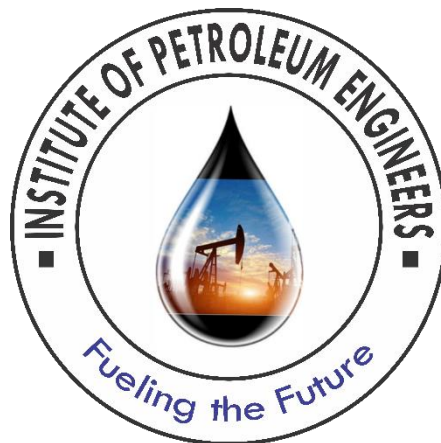
**FACULTY**

**1. MR. DIVYANSHU VYAS (AEE PRODUCTION ONGC)**

**GATE RANK – 17**

**2. MR. SIDDHART MIGHLANI (M.TECH ISM DHANBAD)**

**GATE RANK – 46**



LECTURE	TOPIC
1	Introduction of reservoir engineering
2	Introduction & Porosity   reservoir Engineering
3	Permeability   Reservoir Engineering
4	Rock Properties Basics (RCAL)
5	Capillary pressure
6	Capillary Pressure
7	Porosity
8	Capillary pressure
9	Wettability and surface tension
10	Unit conversion
11	Permeability
12	Capillary pressure and permeability
13	Relative Permeability
14	Relative Permeability (2) and Gate practice questions
15	Reservoir Flow Dynamics-1
16	Structural aspects of Permeability
17	Deriving Permeability (Structural aspect) for various cases.
18	Phase Behaviour 1
19	Phase Behaviour 2
20	Fluid Properties: Ideal Gasses and Real Gasses
21	Gas Properties   Calculation   Volumetric Gas Material Balance
22	Gas Material Balance   Mole Balance Approach   P/Z format   Non Volumetric Gas Reservoirs
23	Energy Plot   Concluding Gas M-Bal

24	Crude Oil Properties : Oil Gravity   Solution Gas Oil Ratio
25	Crude Oil Properties : Oil FVF   Compressibility   Viscosity
26	Material Balance Fundamentals : Crude Oil Density   Total Formation Volume Factor
27	Material Balance Preview   Concept of Underground Withdrawal (F)
28	Oil Reservoir Material Balance - The Derivation (Part 1)
29	Oil Reservoir Material Balance - The Derivation (Part 2)
30	Understanding Gas Oil Ratio (GOR)
31	Important Observations from the MBE
32	Havelena odeh - Straight Lined MBE   Applications   Diagnosis   Reserve Estimation
33	Drive Mechanisms : Theory and MBE Perspective
34	MBE : Conceptual Numerical
35	Gas Condensate
36	Mini Topics : Coning and Cusping
37	Fluid Flow Through Porous Media : Concepts
38	Flow Equations : Darcy's Law   Linear flow   Tilted linear flow   Incompressible fluids   Steady state
39	Decline curve
40	Doubts discussion and Decline curve Numerical
41	LINEAR FLOW : Tilted   Slightly Compressible   Compressible
42	Radial Flow : Incompressible   Slightly Compressible   Compressible (Real Gas Pseudo Potential)
43	Diffusivity Equation   Derivation   Significance

44	Transient State Solution of Diffusivity Equation
45	Transient stage formation Damage
46	HERRIOT WATT RESERVOIR
47	RESERVOIR
48	Darcy law non horizontal flow questions
49	Coring & Core Analysis
50	pvt analysis
51	MBE
52	MBE Numerical
53	Decline curve numerical
54	Gas condensate
55	IPR
56	DRAG FORCE

## NOTE:

1.MORE LECTURES WILL BE UPLOADED AS PER THE NEED OF THE STUDENTS OR CHANGES IN SYLLABUS.

2.MORE NUMERICAL DISCUSSION LECTURES WILL BE UPLOADED REGULARLY.