Department of Drilling Engineering

WINTER-2026, Introduction to Resorvoir Engineering Lesson Plan

Branch: DRILLING ENGINEERING			Faculty:- Er.Tapas Ranjan Sutar
Subject:Introduction to Resorvoir Engineering/DEPE303(B)	No of periods: 3hrs/week	Total Period: 45 Total week: 15	End Sem exam: 70 Progressive assesment: 30

Scheduled Session: WINTER-2026 ***(01.07.2026 to 05.11.2026), AVAILABLE PERIOD: 49***

Month	Week	Period	Date	Topics	Total Periods/Remarks
JULY	1st	1P	02.07.2026	Briefing of Syllabus and Introduction to the course, its application	1
		I.Introduction to Reservoir Engineering:			5
		1P	03.07.2026	Definitions, classification of reservoirs	
	2nd	1P	07.07.2026	Overview of reservoir engineering tasks.	
		1P	09.07.2026	Characteristics of crude oil and natural gas	
		1P	10.07.2026	Classification of crude and its physicochemical properties.	
	3rd	1P	14.07.2026	Classification of crude and its physicochemical properties.	
		II. Reservoir Rock Properties:			10
		1P	17.07.2026	Porosity	
	4th	1P	21.07.2026	Effective and relative permeabilityy, determination,	
		1P	23.07.2026	combination of permeability in parallel & series beds	
		1P	24.07.2026	Porosity permeability relationship	
	5th	1P	28.07.2026	Fluid saturation determination and significance	
		1P	30.07.2026	Wettability	
		1P	31.07.2026	Capillary pressure, characteristics	
AUGUST	2nd	1P	04.08.2026	Capillary pressure, characteristics	
		1P	06.08.2026	Measurements and uses	
		1P	07.08.2026	Compressibility.	
	3rd	III. Fluid Properties:			6
		1P	11.08.2026	Phase behaviour of hydrocarbon system	
		1P	13.08.2026	Ideal & non ideal system	
		1P	14.08.2026	Equilibrium ratios	
	4th	1P	18.08.2026	Reservoir fluid sampling	
		1P	20.08.2026	PVT properties determination and application	
		1P	21.08.2026	PVT properties determination and application	
	5th	IV. Fluid Flow in Porous Media			6
		1P	25.08.2026	Darcy's Law	
		1P	28.08.2026	Single-phase and multiphase flow	
SEPTEMBER	1st	1P	01.09.2026	Relative permeability	
		Tentative 1st Internal Assesment in-between 01.09.2026 to 08.09.2026			
		1P	03.09.2026	Fractional flow	
	2nd	1P	08.09.2026	Flow through fractures	
		1P	10.09.2026	Water and gas coning	
		V.Reservoir Drive Mechanisms:			5
		1P	11.09.2026	Solution gas drive	
	3d	1P	17.09.2026	Gas cap drive	
		1P	18.09.2026	Water drive	
	4th	1P	22.09.2026	Compaction drive	
		1P	24.09.2026	Combination drive	
		VI. Material Balance and Reserve Estimation:			6
		1P	25.09.2026	Material balance equations	
	5th	1P	29.09.2026	Material balance equations	
OCTOBER	1st	1P	01.10.2026	Volumetric methods	
	2nd	1P	06.10.2026	Volumetric methods	
		1P	08.10.2026	Recovery factors	
		1P	09.10.2026	Recovery factors	
	3rd	VII. Well Testing and Pressure Transient Analysis:			7
		1P	13.10.2026	Objectives of well testing	
		1P	15.10.2026	Pressure drawdown and buildup tests,	
		1P	16.10.2026	Interpretation	
	4th	1P	22.10.2026	Decline Curve Analysis- methods Types of decline curves	
		1P	23.10.2026	Extrapolation techniques	
	5th	1P	27.10.2026	Limitations	
		Tentative 2nd Internal Assesment in-between 26.10.2026 to 31.10.2026			
		1P	29.10.2026	Extra Class/Doubt clearing class	
		1P	30.10.2026	Extra Class/Doubt clearing class	
NOVEMBER	1st	1P	03.11.2026	Extra Class/Doubt clearing class	
		1P	05.11.2026	Extra Class/Doubt clearing class	

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25-6-26
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