Discipline: **Drilling Engineering**	Semester: **5th Semester**	Name of the Teaching Faculty: **Er. Brushabhanu Sahoo, Lecturer Stage-I**	
Subject(Lab): **PETROLEUM ENGINEERING LAB** Subject Code: **DEPC305**	No. of Periods / week: **04**	Session: **2026-27 (Winter 2026)** No. of weeks:**15** Semester from date **01.07.2026** to **05.11.2026**	
Week	Class Day	Practical Topics	Remarks
1st	1st	Measure porosity of reservoir rock samples and understand their storage capacity.	
	2nd	Measure porosity of reservoir rock samples and understand their storage capacity.	
	3rd	Measure porosity of reservoir rock samples and understand their storage capacity.	
	4th	Measure porosity of reservoir rock samples and understand their storage capacity.	
2nd	1st	Determine permeability of core samples and evaluate their ability to transmit fluids.	
	2nd	Determine permeability of core samples and evaluate their ability to transmit fluids.	
	3rd	Determine permeability of core samples and evaluate their ability to transmit fluids.	
	4th	Determine permeability of core samples and evaluate their ability to transmit fluids.	
3rd	1st	Analyze API gravity and viscosity of crude oil for classification and processing applications.	
	2nd	Analyze API gravity and viscosity of crude oil for classification and processing applications.	
	3rd	Analyze API gravity and viscosity of crude oil for classification and processing applications.	
	4th	Analyze API gravity and viscosity of crude oil for classification and processing applications.	
4th	1st	Study compressibility and density of natural gas under varying pressure and temperature.	
	2nd	Study compressibility and density of natural gas under varying pressure and temperature.	
	3rd	Study compressibility and density of natural gas under varying pressure and temperature.	
	4th	Study compressibility and density of natural gas under varying pressure and temperature.	
5th	1st	Generate capillary pressure curves and understand fluid distribution in porous media.	
	2nd	Generate capillary pressure curves and understand fluid distribution in porous media.	
	3rd	Generate capillary pressure curves and understand fluid distribution in porous media.	
	4th	Generate capillary pressure curves and understand fluid distribution in porous media.	
6th	1st	Prepare drilling mud and test its rheological properties such as density.	
	2nd	Prepare drilling mud and test its rheological properties such as density.	
	3rd	Prepare drilling mud and test its rheological properties such as density.	

	4th	Prepare drilling mud and test its rheological properties such as density.	
7th	1st	Prepare drilling mud and test its rheological properties such as viscosity.	
	2nd	Prepare drilling mud and test its rheological properties such as viscosity.	
	3rd	Prepare drilling mud and test its rheological properties such as viscosity.	
	4th	Prepare drilling mud and test its rheological properties such as viscosity.	
8th	1st	Prepare drilling mud and test its rheological properties such as gel strength.	
	2nd	Prepare drilling mud and test its rheological properties such as gel strength.	
	3rd	Prepare drilling mud and test its rheological properties such as gel strength.	
	4th	Prepare drilling mud and test its rheological properties such as gel strength.	
9th	1st	Determine sand content of drilling fluids using standard tests.	
	2nd	Determine sand content of drilling fluids using standard tests.	
	3rd	Determine sand content of drilling fluids using standard tests.	
	4th	Determine sand content of drilling fluids using standard tests.	
10th	1st	Determine filtration loss of drilling fluids using standard tests.	
	2nd	Determine filtration loss of drilling fluids using standard tests.	
	3rd	Determine filtration loss of drilling fluids using standard tests.	
	4th	Determine filtration loss of drilling fluids using standard tests.	
11th	1st	Measure wettability and interfacial tension of reservoir rocks and fluids.	
	2nd	Measure wettability and interfacial tension of reservoir rocks and fluids.	
	3rd	Measure wettability and interfacial tension of reservoir rocks and fluids.	
	4th	Measure wettability and interfacial tension of reservoir rocks and fluids.	
12th	1st	Interpret basic seismic data and identify subsurface geological features.	
	2nd	Interpret basic seismic data and identify subsurface geological features.	
	3rd	Interpret basic seismic data and identify subsurface geological features.	
	4th	Interpret basic seismic data and identify subsurface geological features.	
13th	1st	Perform metering and measurement of oil and gas flow rates using standard instruments.	
	2nd	Perform metering and measurement of oil and gas flow rates using standard instruments.	
	3rd	Perform metering and measurement of oil and gas flow rates using standard instruments.	
	4th	Perform metering and measurement of oil and gas flow rates using standard instruments.	
14th	1st	Identify components of wellhead and production systems through equipment demonstration.	
	2nd	Identify components of wellhead and production systems through equipment demonstration.	
	3rd	Identify components of wellhead and production systems through equipment demonstration.	
	4th	Identify components of wellhead and production systems through equipment demonstration.	
15th	1st	Understand SCADA systems and their application in modern digital oilfield operations.	
	2nd	Understand SCADA systems and their application in modern digital oilfield operations.	
	3rd	Understand SCADA systems and their application in modern digital oilfield operations.	
	4th	Understand SCADA systems and their application in modern digital oilfield operations.	

25/06/26

Lecturer (Stage-I)
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