20PEB325					Artificial Lift Technology					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total
					MS	ES	IA	LW	LE/Viva	Marks
2	0	0	2	2	25	50	25	--	--	100

COURSE OBJECTIVES

➢ Demonstrate the artificial lift techniques.
➢ Imbibe the knowledge of problems and their related remedies
➢ Improve skills to interpret the requirement of artificial lift
➢ Develop skill propose best suitable artificial lift solutions for low productivity wells

UNIT-1   **7 Hrs.**

Introduction to Artificial Lift Techniques: Principle and application consideration of artificial lift methods- Rod Pump (SRP/PCP), Gas Lift (Continuous/Intermittent), Electric submersible Pump (ESP), Hydraulic lifts (Jet Pump). Introduction to software's application for design and monitoring.

UNIT-2   **6 Hrs**

Sucker Rod Pump: working principles, Surface and Subsurface components of SRP, Designing, Monitoring and Optimization, Common Operating Problems and its mitigation. Software solution design and operating problems

UNIT-3   **6 Hrs.**

Gas Lift: working principles, Surface and Subsurface components of Gas Lift, Designing, Monitoring and Optimization, Common Operating Problems and its mitigation. Software solution design and operating problems

UNIT-4   **7 Hrs.**

Other Pumps (PCP, ESP, and Jet Pump) working principles, Surface and Subsurface components of Gas Lift, Designing, Monitoring and Optimization, Common Operating Problems and its mitigation. Software solution design and operating problems

Total = **30 Hrs**

COURSE OUTCOMES

On completion of the course, student will be able to
CO1- Relate artificial lift techniques with production enhancement.
CO2- Differentiate and illustrate the artificial lift techniques with its merits and demerits.
CO3- Apply the knowledge to solve artificial lift problems
CO4- Analyse a low productive well to predict suitable artificial lift.
CO5- Design artificial lift solutions for low productivity wells
CO6- Evaluate the feasibility of artificial lift design and recommend the best solution

TEXT / REFERENCE BOOKS

1. Dr. Guo Boyun, Computer Aided Petroleum Production Engineering
2. H Dale Begg, Production Optimization, OGCI Publication, Tulsa.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max. Marks: 100   **Exam Duration: 3 Hrs.**
PART A: Part A/Question: <Short Notes, Problems, Numericals>   **20 Marks**
PART B:<Justification, Criticism, Long answers, Interpretation >   **80 Marks**