

20PEB326					Offshore Operations and Engineering					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
3	0	0	3	3	25	50	25	--	--	100

**COURSE OBJECTIVES**

- Demonstrate the various offshore operations.
- Imbibe the knowledge of associated problems and their related remedies.
- Improve analytical skills to predict the suitable operation based on the offshore environment.
- Develop skill to propose best suitable strategy for performing offshore operation

**UNIT-1****10 Hrs.**

**Introduction:** Deep water facts & figures, Indian and Global Deep water exploration and production scenario, Introduction to Offshore, Environmental conditions, Wave, wind and undercurrent forces. Types and classification of Offshore Platforms. Offshore logistics.

**UNIT-2****9 Hrs**

**Drilling and Well Completion:** Techniques of drilling and completing in shallow water, associated problems, Techniques of drilling and completion in deep water, smart and intelligent well completion. Safety systems for offshore operations, Oil Processing in Offshore and Comparison with onshore.

**UNIT-3****10 Hrs.**

**Deep water development & Flow assurance** strategy, subsea completion, floating platforms, mooring and anchoring systems, ROV and ROT for well intervention. Flow assurance in deep water, prospective new technologies.

**UNIT-4****9 Hrs.**

**Offshore Safety and fire protection:** Safety aspects:-Process safety, Life extension, Well integrity, Rig interferences. Human factors and safety, ERR Process. Navigation aids, Fire protection system. Case history analysis and lessons learned

**Total = 46 Hrs****COURSE OUTCOMES**

On completion of the course, student will be able to:

- CO1- Relate Offshore operations with that of onshore operations.
- CO2- Differentiate and illustrate offshore drilling and production platforms.
- CO3- Apply the knowledge to tackle bottlenecks in offshore drilling and production operations.
- CO4- Analyse offshore environment and predict techniques of various operation.
- CO5- Plan strategy for offshore drilling and production operations.
- CO6- Evaluate the feasibility of offshore operation in view with the offshore safety and environmental aspects.

**TEXT / REFERENCE BOOKS**

1. SSP singh, Jatin Agrawal and Nagmani (2019) Offshore operations and engineering, CRC Press, Taylor and francis group 281 p.

**END SEMESTER EXAMINATION QUESTION PAPER PATTERN****Max. Marks: 100****Exam Duration: 3 Hrs.****PART A:** Part A/Question: <Short Notes, Problems, Numerical>**20 Marks****PART B:** <Justification, Criticism, Long answers, Interpretation >**80 Marks**