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Enrolment No:			
UPES End Semester Examination, December 2023			
Course: Offshore Drilling and Production Practices Program: B Tech APE UP Course Code: PEAU4015P Instructions: All the questions are compulsory		Semester: VII Time : 03 hrs. Max. Marks: 100	
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Explain the types of forces acting on a floating vessel, along with their axes of application.	4	CO1
Q 2	Describe following: Occluded front, Temporary guide base, Drilling Template, Caissons.	4	CO2
Q 3	Discuss the steps taken to control oil spillage from an offshore production facility.	4	CO2
Q 4	a) Explain metacenter and effects on the ship's stability with diagram. b) Calculate the distance between center of buoyancy and metacenter when the distance between center of buoyancy and center of gravity is 30m, and distance between center of gravity and metacenter is 7m.	4	CO2
Q 5	Differentiate between tower type and template type jacketed platform.	4	CO3
SECTION B (4Qx10M= 40 Marks)			
Q 6	Discuss the four components of Jack-up rig in details.	10	CO3
Q 7	Describe how meteorological weather parameters affect the drilling process. Or Explain briefly floating production system in offshore operation.	10	CO3
Q 8	Discuss the wet well completion methods used in offshore operation.	10	CO3
Q 9	Elaborate the components of marine riser system from bottom to top with suitable diagrams if needed.	10	CO4
SECTION-C (2Qx20M=40 Marks)			
Q 10	Explain the sequence of operations in drilling from a hypothetical well from floating rig with suitable diagrams.	20	CO4

Q 11	<p>Illustrate with the help of diagram the installation procedure for a Jacketed Platform.</p> <p style="text-align: center;">Or</p> <p>Explain if dynamic positioning system drill ships are more efficient than spread mooring system rigs. Describe in detail three subsystems of DP system.</p>	20	CO4
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