Name: Enrolment No:	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2020

Programme Name: M.Tech PE **Semester : I**

Course Name : Offshore Operations **Time : 03 hrs**

Course Code : PEAU7002 **Max. Marks : 100**

Instructions :

- All questions are compulsory. However, internal choice has been provided. You have to attempt only one of the alternatives.
- Write the answers on an A4 sheet with your name and roll number mentioned on each page. Pl scan properly so as the answers are visible.
- Submit well within time limit.

SECTION A

(5 x 6 marks = 30 marks)

S. No.	Questions of three mark each. Chose the correct answer/answers.	Marks	CO
1	List the advantages of the Gravity Structures.	5	CO2
2	a. Two types of systems considered for transporting crude produced from offshore fields are _____ and _____. b._____ can be installed where the soil is firm having substantial bearing capacity and the sea bed must be virtually levelled. c. The tubular carrying crude from well to process facility is called _____. d. _____currently operate in water depth 20 – 125 meter.	5	CO3
3	a. Semi submerged storage applies to moored tanks with a low positive buoyancy. These tanks float with only a small fraction of their volume above surface.(T/F) b. A Bottom Supported submerged storage tank has a negative buoyancy.(T/F) c. The most common type of mooring system is the spread mooring system which has consisted of from one to twelve mooring lines. (T/F) d. Concrete gravity structures rest directly on the ocean floor by virtue of their own weight. (T/F) e. Gravity structures consist of platforms with two hulls positioned on top of one another. (T/F)	5	CO4
4	Discuss the different forces acting on an offshore structure.	5	CO4
5	Explain the steps required for offshore drilling.	5	CO2
6	Schematically classify different offshore Mobile Units.	5	CO2

SECTION B

(50 marks)

Q 2	Elaborate the significance of Mooring system. What are the different types of mooring system?	10	CO4
Q 3	Discuss the steps of Offshore Field Development.	10	CO1

Q 4	Explain the types of Risers.	**10**	**CO4**
Q5	Diagrammatically explain the wellhead components. OR Diagrammatically explain the components of Christmas Tree.	**10**	**CO3**
Q6	Elaborate in details about FPSO.	**10**	**CO3**
	SECTION-C **(20 marks)**		
Q7	Explain the different Offshore Production systems. Offshore crude storage facility may be grouped into five broad categories based on the water depth. Discuss those types. OR Classify the different Offshore platforms based on the Water Depth. Differentiate between Fixed platform and Floating platform.	**20**	**CO3**