

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2020

Course: LNG & Storage of Natural Gas Program: B.Tech. APE Gas Course Code: CHGS4001 No of pages: 02	Semester: VII Time: 180 min Max. Marks: 100
--	--

SECTION A (Type the answer type)

Q. No.	Multiple choice questions. Each carries 5 marks. 5X6 = 30 marks	Marks	CO
Q 1	Which component is undesirable in LNG feed gas? a)Methane b)Ethane c)Propane d)Water vapor	5	CO1
Q.2	LNG storage typically accounts for approximately up to -----% of the total plant cost depending on the design both in liquefaction and regasification. a)2-5 b)5-10 c)5-15 d)10-15	5	CO2
Q.3	----- is the single country importing largest volumes of LNG in the world. a)Belgium b)Japan c) France d) Turkey	5	CO3
Q.4	What is the required range of diameter of the turning area for safe maneuvering of large LNG tankers? a)600-900m b)200-600m c) 500-1000 m d) None of these	5	CO3
Q.5	Submerged combustion LNG vaporizers use up to -----% of the throughput as fuel. a)1.5 b)2 c)2.5 d)3	5	CO4
Q.6	-----storage is much more limited in terms of capacity. a)Aquifer b)Depleted reservoir c)Salt cavern d)None of these	5	CO5

SECTION B (Scan and upload type)

Q. No.	Medium answer type questions. Each carries 10 marks. 10X5 = 50 marks	Marks	CO
Q.1	Describe without flow diagram, BHP Nitrogen Expander Process for LNG production. Also give the advantages and disadvantages of the same process.	10	CO1
Q.2	Describe with diagram, the double containment LNG storage tank.	10	CO2
Q.3	Analyze and discuss the guidelines for LNG contract negotiations with regard to Gas quality and Change of Destination. As India is an importer of LNG and likely to continue in future, the guidelines should be with respect to buyer's side.	10	CO3
Q.4	Describe with flow diagram, 'Glycol-Water Intermediate Fluid Vaporizer'. Also give its merits and demerits.	10	CO4
Q.5	Analyze and describe any two methods of underground storage of natural gas. Draw diagrams wherever necessary.	10	CO5

SECTION-C (Scan and upload type)

Q. No.	Long answer type question. It carries 20 marks. 1X20 = 20 marks	Marks	CO
Q.1	Describe with flow diagram, 'Simplified Cascade Liquefaction Process' for LNG production. Also give the advantages and areas of concern of the same process. OR Describe with flow diagram, 'Black & Veatch-Pritchard PRICO Process' for LNG production. Also discuss the advantages and areas of concern of the same process.	20	CO1