Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – WINTER • 2014

Subject Code: 173506 Date: 29-11-2014

Subject Name: Environmental Aspects of Petroleum Refining

Time: 10:30 am - 01:00 pm Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain API and CPI separators with appropriate diagram.	**07**
	(b)	Explain in plant control techniques for refinery wastes.	**07**
Q.2	**(a)**	Explain three different methods of dissolved air floatation techniques.	**07**
	(b)	Enlist removal method from gaseous derivatives and explain Mercury and Nitrogen removal strategy.	**07**
		OR	
	(b)	Describe Acid gas removal procedure from gaseous derivatives.	**07**
Q.3	**(a)**	Write short note on Thermal Cracking in petroleum refining.	**07**
	(b)	Draw a flow diagram of waste stream generation during three stage crude distillation.	**07**
		OR	
Q.3	**(a)**	Explain Ballast water and Crude desalting in detail.	**07**
	(b)	Enlist various methods of hydrogen storage and explain any one in detail.	**07**
Q.4	**(a)**	Briefly explain safety issues while transporting hydrogen.	**07**
	(b)	Describe with detail flow diagram of surface discharge method for brine (produced water treatment.	**07**
		OR	
Q.4	**(a)**	Kindly explain any one method of drilling fluid treatment and disposal.	**07**
	(b)	Compare various secondary biological methods for treating waste water.	**07**
Q.5	**(a)**	Give full form of 1) BPT 2) BAT 3) BCT 4) NSPS 5) DAI 6) IAF 7) CPI.	**07**
	(b)	What is Octane modification explains in detail.	**07**
		OR	
Q.5	**(a)**	Explain terms, BALBO process and Pigging.	**07**
	(b)	Explain general characteristics of waste water generated during crude refining.	**07**

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