Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY

**Subject Code: 2710002** 

ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Date:06/01/2017

7	Гime	ect Name: Petroleum Refinery Engineering 2: 2:30 pm to 5:00 pm Ctions:  1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	
Q.1		What is Crude Assay Analysis? Explain TBP distillation with net sketch and also compare it with ASTM and EFV Distillations.	14
Q.2	(a) (b)	Explain Watkins method to determine the yield of different fractions from crude oil.  Describe exploration and transportation of crude oil.  OR	07 07
	<b>(b)</b>	State various important petroleum products and their important properties along with specifications.	07
Q.3	(a) (b)	Differentiate between ADU and VDU used in refinery.  Explain different types of reflux used in crude oil distillation column.  OR	07 07
Q.3	(a) (b)	Write a short note on Tube Steel Heaters used in crude oil distillation unit. Why hydrogen is used in treatment of petroleum products? Explain any one hydrogen treatment in detail.	07 07
Q.4	(a) (b)	Mention various techniques for De-asphalting. Explain any one in detail. Explain heat and mass balance calculations of ADU.  OR	07 07
Q.4	(a) (b)	Write a short note on Lube oil processing.  Explain Catalytic Reforming in brief.	07 07
Q.5		Why FCC is considered as main plant of a crude oil refinery? Explain fluidized Catalytic Cracking process with neat sketch. Also, explain advances in FCC and effect of feed stock properties on yield pattern of FCC.  OR	14
Q.5	(a) (b)	Explain material balance and energy balance of FCC. Compare Catalytic Reforming and Fluidized Catalytic Cracking.	07 07

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