Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VIII.EXAMINATION – WINTER 2016

Subject Code: 180502 **Date: 20/10/2016**

Subject Name: Petroleum Refining & Petrochemicals

Time: 02:30 PM to 05:00 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)**	Discuss the origin and formation of petroleum along with organic theories.	**07**
	(b)	Define: (i) Flash point & Fire point (ii) Octane number (iii) Spontaneous ignition temperature (iv) Cetane number (v) Pour point (vi) Penetration index (vii) Softening point	**07**
Q.2	**(a)**	Explain Atmospheric distillation & Vacuum distillation to obtain principal fractions.	**07**
	(b)	Write a note on Propane deashphalting.	**07**
		OR	
	(b)	Discuss Fluid Catalytic Cracking in detail with neat sketch.	**07**
Q.3	**(a)**	Explain the term evaluation of petroleum crude. Discuss the composition and distillation characteristics of petroleum crude.	**07**
	(b)	Compare thermal cracking and catalytic cracking with reactions.	**07**
		OR	
Q.3	**(a)**	Explain Merox sweetening process for gasoline treatment.	**07**
	(b)	Write a short note on TBP apparatus.	**07**
Q.4	**(a)**	Describe the manufacturing process methanol along with its application.	**07**
	(b)	Describe with a neat flow diagram manufacture of Ethylene Oxide.	**07**
		OR	
Q.4	**(a)**	Discuss about the current scenario of world petrochemical industry.	**07**
	(b)	Discuss major engineering problems, properties and uses of Acetic acid.	**07**
Q.5	**(a)**	Describe with diagram the manufacturing process of LDPE along with its properties and uses.	**07**
	(b)	Discuss manufacturing process of polypropylene with flow diagram.	**07**
		OR	
Q.5	**(a)**	Describe manufacturing process of poly vinyl chloride. List out the required raw materials and related chemical reaction.	**07**
	(b)	Write in brief about manufacture of polystyrene. Enlist different uses of polystyrene.	**07**

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