

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- VIII (New) EXAMINATION – WINTER 2019

**Subject Code: 2180502**

**Date: 27/11/2019**

**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.

		MARKS
<b>Q.1</b>	(a) Discuss about ADU for the crude petroleum	<b>03</b>
	(b) What is cracking? Discuss the properties of cracked materials	<b>04</b>
	(c) Discuss about the current scenario of world Petrochemical industry.	<b>07</b>
<b>Q.2</b>	(a) Define: (i) Octane number (ii) Cetane number (iii) Softening point	<b>03</b>
	(b) Discuss the process of Lead doctoring.	<b>04</b>
	(c) Discuss manufacturing process of Styrene with neat flow diagram.	<b>07</b>
	<b>OR</b>	
	(c) Write short notes on Dehydration and desalting of crudes.	<b>07</b>
<b>Q.3</b>	(a) Give classification of crude oil.	<b>03</b>
	(b) Define/Explain the following terms : (i) Smoke point (ii) flash point (iii) Pour point (iv) Aniline point	<b>04</b>
	(c) Describe different arrangement of distillation towers in Petroleum fractioning with the help of neat sketches.	<b>07</b>
<b>Q.3</b>	(a) Discuss properties and uses of Methanol.	<b>03</b>
	(b) Discuss major engineering problems in vinyl chloride manufacture.	<b>04</b>
	(c) Explain the Catalytic Reforming process in detail.	<b>07</b>
<b>Q.4</b>	(a) Discuss properties and uses of Acetic acid	<b>03</b>
	(b) Write explanatory note on visbreaking.	<b>04</b>
	(c) Discuss various types of naphtha and their important properties & applications.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) List the various types of gases from petroleum.	<b>03</b>
	(b) Discuss properties and uses of LDPE.	<b>04</b>
	(c) Explain Merox sweetening process for gasoline treatment.	<b>07</b>
<b>Q.5</b>	(a) Enlist major petrochemical units in India.	<b>03</b>
	(b) Discuss major engineering problem associated with manufacturing process of ethylene oxide.	<b>04</b>

- (c) Discuss about different test and properties of petroleum oil **07**

**OR**

- Q.5** (a) List various additives and its important for gasoline **03**

- (b) Explain properties of high Density Polyethylene and its application. **04**

- (c) With a neat sketch of True Boiling Point apparatus, explain the test method and significance. **07**

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