

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018

Subject Code: 2180502

Date: 26/11/2018

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.
4. Draw neat diagram where necessary.

		MARKS
Q.1	(a) Give classification of crude oil.	03
	(b) Write short note on oil fields and refineries in India.	04
	(c) Discuss about different test and properties of petroleum oil	07
Q.2	(a) List out various additives and its importance for gasoline.	03
	(b) Write importance of dehydration and desalting of crudes.	04
	(c) In connection with thermal cracking explain the following: Feed, reaction mechanism, operational variables, products	07
	<b>OR</b>	
	(c) Describe different arrangement of distillation towers in petroleum fractioning with the help of neat sketches	07
Q.3	(a) Enlist major petrochemical units in India.	03
	(b) Write explanatory note on Visbreaking.	04
	(c) Discuss various types of naphtha and their important properties & applications.	07
	<b>OR</b>	
Q.3	(a) Write short note on types of diesel & its important Properties.	03
	(b) Discuss the process of lead doctoring of gasoline with reactions and PFD	04
	(c) Discuss electric desalting process in brief.	07
Q.4	(a) List various dew axing processes? Which is the major solvent used for dew axing?	03
	(b) Explain Merox sweetening process for gasoline treatment	04
	(c) Discuss catalytic reforming process with respect to the following points: Objective, feedstock , catalyst used , Major reactions	07
	<b>OR</b>	
Q.4	(a) Enlist different petrochemicals obtained from Propylene.	03
	(b) What is the principle of propane deasphalting?	04
	(c) State different methods for treatment of Lube oil. Discuss any one in detail.	07
Q.5	(a) Define/Explain the following terms: (i) Smoke point (ii) flash point (iii) Pour point	03
	(b) Discuss major engineering problem associated with manufacturing process of ethylene oxide.	04
	(c) Write note on manufacturing of formaldehyde and its uses.	07

OR

- Q.5**
- (a) Discuss industrial uses of Vinyl Chloride. **03**
  - (b) Explain properties of high Density Polyethylene and its application. **04**
  - (c) Describe manufacturing process of styrene butadiene rubber with neat process flow diagram and discuss major engineering problems involved in it. **07**

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