

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2023****Subject Code:3160510****Date:11-12-2023****Subject Name:Petroleum Refining and 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. Simple and non-programmable scientific calculators are allowed.

		MARKS	
Q.1	(a) Give classification of crude oil.	03	
	(b) Discuss about ADU for the crude petroleum.	04	
	(c) Describe different arrangement of distillation towers in petroleum fractioning with the help of neat sketches.	07	
Q.2	(a) Define: (i) Octane number (ii) Cetane number (iii) Softening point	03	
	(b) Explain lead doctoring method for treatment of gasoline in brief.	04	
	(c) Explain (FCC) fluidized catalytic cracking with neat sketch.	07	
OR			
Q.3	(c) Explain the catalytic reforming process in detail.	07	
	(a) State various routes of production of methanol.	03	
	(b) Discuss major engineering problems of methanol.	04	
Q.3	(c) Explain Merox sweetening process for gasoline treatment.	07	
	OR		
	Q.3	(a) Discuss major engineering problems, properties and uses of acetic acid.	03
(b) Write down various properties and uses of Poly Vinyl Chloride (PVC).		04	
(c) Describe manufacturing process of LDPE with neat process flow diagram.		07	
Q.4	(a) Write explanatory note on visbreaking.	03	
	(b) Discuss industrial uses of polypropylene.	04	
	(c) Discuss manufacturing process of styrene with neat flow diagram.	07	
OR			
Q.4	(a) Enlist major engineering problems associated with production of ethylene oxide.	03	
	(b) What is dewaxing? Why it is required? Explain any one method for dewaxing of lubes.	04	
	(c) Discuss various types of naphtha and their important properties & applications.	07	
Q.5	(a) List the various types of gases from petroleum.	03	
	(b) Write down various properties and uses of formaldehyde.	04	
	(c) Discuss about different test and properties of petroleum oil.	07	
OR			
Q.5	(a) Enlist major petrochemical units in India.	03	
	(b) Discuss in brief: Role of crude oil in global economy.	04	
	(c) Discuss about the current scenario of world petrochemical industry.	07	
