

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI EXAMINATION – SUMMER 2025****Subject Code:3160510****Date:28-05-2025****Subject Name: Petroleum Refining and Petrochemicals****Time: 10:30 AM TO 01:00 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) Enlist important properties & applications of naphtha.	03
	(b) Give an account of crude oil refining scenario in global context.	04
	(c) Categorize different crude oils based on their characteristics.	07
Q.2	(a) Discuss the challenges of pumping waxy crude and how to overcome them.	03
	(b) Explain ASTM distillation with a neat sketch.	04
	(c) What are the needs of additives for gasoline fuels? Describe any two.	07
	OR	
	(c) Specify two most important tests for bitumen in detail.	07
Q.3	(a) List the important tests and properties of kerosene.	03
	(b) Write a short note on Merox Sweetening.	04
	(c) Discuss production of LPG and any one treatment of LPG in detail.	07
	OR	
Q.3	(a) List the physical impurities found in crude oil and the related problems.	03
	(b) What is dewaxing of lubes and its significance? Explain any one method for dewaxing of lubes.	04
	(c) With the help of a neat flow sheet describe the process of BTX separation.	07
Q.4	(a) Discuss about VDU for the crude petroleum.	03
	(b) Define Following: (i) Smoke point (ii) Pour point (iii) Octane number (iv) Diesel index	04
	(c) Define thermal cracking of crude petroleum and explain Dubb`s two coil process of thermal cracking in detail.	07
	OR	
Q.4	(a) List out various types of gases from petroleum and explain about any one.	03
	(b) Write a short note on platforming catalyst.	04
	(c) Explain Fluid catalytic cracking (FCC) in detail with a neat diagram.	07
Q.5	(a) List the major industrial application of chloromethane.	03
	(b) Discuss the engineering problems associated with methanol production.	04
	(c) Explain the manufacturing process of Ethylene dichloride with a flow sheet.	07
	OR	
Q.5	(a) List the important properties and uses of formaldehyde.	03
	(b) Discuss the major engineering problems involved in the manufacturing of Vinyl chloride monomer.	04
	(c) Explain manufacturing process of LDPE with a flow sheet along with its industrial application.	07
