

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3160510****Date:12-07-2023****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) Discuss composition of crude oil.	03
	(b) How crude oil is classified? Discuss.	04
	(c) Discuss the recent scenario of production of crude oil and refineries in India.	07
Q.2	(a) Discuss Visbreaking in brief.	03
	(b) Discuss in brief Vacuum Distillation Unit.	04
	(c) Discuss any three tests for testing of gasoline in detail.	07
	OR	
	(c) State different types of additives added in gasoline and their functions.	07
Q.3	(a) Explain in brief: Octane Number and knocking.	03
	(b) Write short note on Electric desalting process.	04
	(c) Explain catalytic reforming in terms of reaction, catalyst, feed stock, operating condition, end products and effect of operating variables.	07
	OR	
Q.3	(a) Write in brief; Properties and applications of SBR	03
	(b) What are the different tests recommended for diesel fuels? Explain any two.	04
	(c) Discuss with neat diagram Fluid catalytic cracking in detail.	07
Q.4	(a) Draw detailed diagram of Platforming process.	03
	(b) Differentiate between Merox sweetening process and Lead doctoring process for gasoline.	04
	(c) Discuss manufacturing process of LPG with neat sketch.	07
	OR	
Q.4	(a) How deasphalting process is carried out for Lubricating oil? Explain in brief.	03
	(b) Discuss major engineering problems involved in production of Methanol.	04
	(c) With the help of a detailed flow diagram explain the manufacturing process of Ethylene	07
Q.5	(a) Discuss softening point and penetration index with respect to Bitumen;	03
	(b) Explain the major engineering problems involved in the manufacturing of Vinyl chloride monomer.	04
	(c) Discuss manufacturing process of LDPE with neat sketch along with its application	07
	OR	
Q.5	(a) Discuss properties and applications of Ethylene dichloride.	03
	(b) Explain ASTM distillation with neat sketch.	04
	(c) Discuss with neat flow diagram explain the manufacturing process of Polypropylene	07
