

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – V • EXAMINATION – WINTER- 2016

Subject Code: 3350503

Date: 23- 11- 2016

Subject Name: Petroleum Refining & Petrochemical Technology

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. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1 Answer any seven out of ten. 14
1. Define Petroleum and Petrochemicals.
 2. What is API gravity?
 3. Define smoke point with its significance?
 4. What is ASTM distillation?
 5. Write the significance of aniline point?
 6. Define Flash & Fire point.
 7. Write the full name of CNG and LPG
 8. Write name of any two tests performed for Bituminous materials.
 9. Write full name of any two petrochemical industries in India.
 10. Write the name of equipments used to measure carbon residue of petroleum products.
- Q.2 (a) Classify Petroleum. 03
- OR
- (a) Discuss the development of refineries in India. 03
- (b) Write short note on composition of petroleum. 03
- OR
- (b) Discuss the refinery products with their boiling temperature. 03
- (c) Discuss about occurrence and history of petroleum. 04
- OR
- (c) Describe Atmospheric Distillation Unit of crude. 04
- (d) Enlist Desalting methods of crude and explain any one. 04
- OR
- (d) Draw any two sketches of pipe still heaters. 04
- Q.3 (a) Differentiate: thermal cracking & catalytic cracking. 03
- OR
- (a) Write physical properties with its measurement of Diesel. 03
- (b) Define: Penetration number, Cloud point and Pour Point. 03
- OR
- (b) Differentiate: thermal reforming & catalytic reforming. 03
- (c) Describe the sulphur removal by Doctor's sweetening method. 04
- OR
- (c) Draw only flow diagram of MEROX treatment method of sulphur removal. 04

	(d) Draw flow diagram of manufacturing of Linear Alkyl Benzene (LAB).	04
	OR	
	(d) Draw flow diagram of manufacturing process of Formaldehyde.	04
Q.4	(a) Explain: Fluidized bed catalytic cracking (FCC).	03
	OR	
	(a) Explain visbreaking.	03
	(b) Describe manufacturing process of Ethylene dichloride.	04
	OR	
	(b) Explain Duo sol (selecto) extraction process for lube oil.	04
	(c) Describe manufacturing of phenol by benzene sulfonate process with neat flow diagram.	07
Q.5	(a) Explain: Platinum reforming process (Platforming).	04
	(b) Explain manufacturing process step of propylene oxide.	04
	(c) Explain: MEK dewaxing process.	03
	(d) Draw flow diagram of SO ₂ solvent extraction method for treatment of kerosene.	03
