Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III • EXAMINATION – SUMMER • 2014

Subject Code: 130501 **Date: 26-05-2014**

Subject Name: Organic Chemistry and Unit Processes

Time: 02.30 pm - 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.**

Q.1	**(a)**	Discuss the fractional distillation of crude oil and state the various important fractions and their uses.	**07**
	(b)	Write short notes on: Occurrence, composition and types of crude oil.	**07**
Q.2	**(a)**	Write physico-chemical properties of chloroform and ethanol.	**07**
	(b)	Describe carbohydrates along with classification and explain the manufacturing process of glucose.	**07**
		OR	
	(b)	What are polynuclear aromatic compound? Give examples and explain nitration of naphthalene.	**07**
Q.3	**(a)**	Give the manufacturing process of phenol from benzene. Also give reactions of benzene with bromine water, trichloro methane and chlorine.	**07**
	(b)	Give one preparation method of each: Chloroform, Acetone, Acetic Acid, Ethyl alcohol, Aniline, Polyethene and Styrene.	**07**
		OR	
Q.3	**(a)**	What is meant by organo metallic compound? Give manufacturing process of Ethyl magnesium bromide in detail with its applications.	**07**
	(b)	What is LPG? Explain CNG and what are the alternatives for them.	**07**
Q.4	**(a)**	Give the manufacturing process for naphthalene and its sulphonation.	**07**
	(b)	Explain the reaction mechanism of Perkin condensation and Cannizzaro reaction.	**07**
		OR	
Q.4	**(a)**	Explain unit process for amination and oxidation in detail.	**07**
	(b)	Explain nucleuophillic substitution reaction in detail with their mechanism.	**07**
Q.5	**(a)**	What do you understand by dyes? Explain its classification with suitable examples.	**07**
	(b)	Write short notes with applications of Hyperconjugation and Inductive effect.	**07**
		OR	
Q.5	**(a)**	Explain Walden Inversion giving suitable example.	**07**
	(b)	Explain with example any two: (1) Esterification. (2) Homolysis. (3) Addition Reaction.	**07**

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