Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (New) EXAMINATION – WINTER 2015

Subject Code:2132805 **Date:29/12/2015**

Subject Name: Organic Chemistry

Time: 2:30pm to 5:00pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1		**Short Questions**	**14**
	1	What is Polarity?	
	2	Explain Free Radical.	
	3	What is Enantiomers?	
	4	Alcohol on oxidation gives?	
	5	State characteristic of Polynuclear Hydrocarbon.	
	6	Structure of Oxalic acid?	
	7	Explain Melting and Boiling point.	
	8	Explain Perkin Reaction.	
	9	Explain Aufbau Principle	
	10	Preparation of Nirtobenzene from Benzene	
	11	Structure of Alpha and Beta Naphthol.	
	12	Define Heterocyclic Compound	
	13	Principle of Chromatography.	
	14	What is Plane Polarized light?	
Q.2	**(a)**	Describe in detail different general methods of preparation, properties and uses of Alkyl halides.	**03**
	(b)	Describe in detail different general methods of preparation, properties and uses of Alcohols.	**04**
	(c)	Give the mechanism of Diazotisation and Sandmeyer reactions.	**07**
		OR	
	(c)	Explain Steam Distillation and Fractional Crystallization.	**07**
Q.3	**(a)**	Define Isomerism and differentiate different types of Structural Isomerism.	**03**
	(b)	Define Geometrical Isomerism. Brief the importance of Cis & Trans forms.	**04**
	(c)	Explain Nucleophillic Addition and Substitution reactions with mechanisms.	**07**
		OR	
Q.3	**(a)**	Write in general preparation, properties and uses of Phenol.	**03**
	(b)	Write in general preparation, properties and uses of Aniline.	**04**
	(c)	Write in detail the preparation, properties and uses of Naphthalene.	**07**
Q.4	**(a)**	Write preparation, properties and uses of Quinoline.	**03**
	(b)	Write preparation, properties and uses of Pyridine.	**04**
	(c)	Explain the importance of Aromaticity. Show aromaticity	**07**

in heterocyclic compounds with examples

OR

Q.4	**(a)**	Explain the importance of Attacking reagents in reaction mechanism.	**03**
	(b)	Explain the importance of Reactive Intermediates in reaction mechanism.	**04**
	(c)	Write preparation, properties and uses of Esters and Amides.	**07**
Q.5	**(a)**	Explain different types of overlapping with suitable examples.	**03**
	(b)	Explain Sp1, Sp2 and Sp3 Hybridization with suitable examples.	**04**
	(c)	Define Optical isomerism. Show the importance of Ploarimeter.	**07**

OR

Q.5	**(a)**	Explain the chemistry of Formic acid.	**03**
	(b)	Explain the chemistry of H and J acids.	**04**
	(c)	Brief different test to identify p-Nitro Aniline by using laboratory practice.	**07**

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