Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (OLD) EXAMINATION – WINTER 2017

Subject Code:132805 **Date:01/12/2017**

Subject Name: Organic Chemistry

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.**

Q.1 **(a)** Explain in short. **07**

1. Define Organic Reaction Mechanism?

2. Define Atomic Orbital.

3. What is Quantum No?

4. Carbonium ions are positive by nature Why?

5. Define Polynuclear Hydrocarbon?

6. Ketone on oxidation gives?

7. Principle of Chromatography?

(b) Define the following terms: **07**

(1) Plane Polarized Light. (2) Bond Length. (3) Polarity. (4) Test for Primary Amine. (5) Molecular Orbital. (6) Lewis Acid and Base. (7) Coordinate Bond.

Q.2 **(a)** Describe in detail different General methods of preparation, properties and uses of Aldehydes and Ketones. **07**

(b) (1) Crystallization and Sublimation. **07**

(2) Hybridization.

OR

(b) (1) Vaccum distillation **07**

(2) Difference between Primary, Secondary and Tertiary Alcohols.

Q.3 **(a)** What is the utility of Isomers. Explain Structural isomerism in detail. **07**

(b) Brief Carbonium, Carbanion and Free Radical. **07**

OR

Q.3	**(a)**	Write in detail the preparation, of Naphthalene and Anthracene.	**07**
	(b)	Write in general preparation, properties and uses of Carboxylic acids.	**07**
Q.4	**(a)**	Write preparation, properties and uses of Nitro compounds.	**07**
	(b)	Explain Cummene process and Sandmeyer reaction with mechanism.	**07**

OR

Q.4	**(a)**	Explain Electrophillic Addition and Substitution reaction with mechanism.	**07**
	(b)	Write preparation, properties and uses of Thiophene and Pyridine.	**07**
Q.5	**(a)**	Explain Nucleophillic Substitution and Addition reaction with example.	**07**
	(b)	Explain Solubility. Show the importance of Protic and Aprotic solvents	**07**

OR

Q.5	**(a)**	Explain preparation, properties and uses of Aryl halides.	**07**
	(b)	Brief different tests to identify Phthalic acid in laboratory.	**07**

-x-x-x-x-x-x-x-x-x-x-x-x-x