Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– III (NEW) EXAMINATION – SUMMER 2015

Subject Code: 2133501 **Date: 09/06/2015**

Subject Name: Organic Chemistry

Time: 02.30pm-05.00pm **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)** What do you mean by nucleophile? Explain SN1 mechanism in detail? **07**

(b) What is the difference between addition and condensation reaction? Explain Hydroboration-Oxidation reaction in detail? **07**

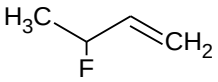
Q.2 **(a)** What is the difference between alcohol and Phenol? Draw the chart showing the chemical reactions of phenol. **07**

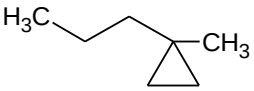
(b) What do you mean by free radical? **07**
Explain (i) Bond fission process (ii) Resonance

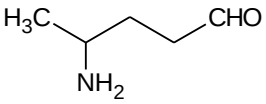
OR **07**

(b) Define carbenes. Explain (i) Hyperconjugation (ii) Tautomerism

Q.3 **(a)** (A) Give IUPAC names of **04**

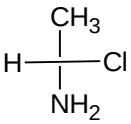
(i) 

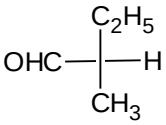
(ii) 

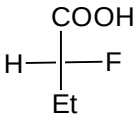
(iii) 

(iv)

(B) Give R & S configuration for the following **03**

(i) 

(ii) 

(iii) 

(b) Explain generation, structure and reactions of carbocations? **07**

OR

Q.3 **(a)** What do you mean by stereochemistry? Classify stereomers and explain the separation of enantiomers? **07**

(b) Explain generation, structure and reactions of carbanions? **07**

Q.4 **(a)** Explain Friedel Craft reaction and give its applications? **07**

(b) How will you synthesize Nitroaromatic compounds? Give their chemical reactions. **07**

OR

Q.4 **(a)** Give the methods of synthesis of aromatic amines? Give the reactions with aniline reacts with **07**
(i) Acetyl chloride (ii) Benzaldehyde (iii) Methyl iodide (iv) BDC (v) $K_2Cr_2O_7$

(b) Write note on (i) Meso compounds (ii) Different methods of resolution **07**

Q.5 **(a)** Explain (i) Hoffmann reaction (ii) Ozonolysis **07**

(b) Write note on (i) Pinacol-Pinacolone rearrangement (ii) Diazotization **07**

OR

Q.5 **(a)** Explain (i) Cannizaro reaction (ii) Aldol and Cross Aldol reaction **07**

(b) Write a note on (i) Benzidine rearrangement (ii) Hydrogenation **07**

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