Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-III Examination May 2012

Subject code: 130404

Subject Name: Organic Chemistry & Unit Processes

Date: 09/05/2012 **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 Answer the following questions. **14**

1. Define electrophile & nucleophile.
2. What are Diastereomers?
3. What are disachharides? Give examples.
4. Which carboxylic acid is known as vinegar?
5. Give reaction to prepare m-dinitrobenzene from benzene.
6. Explain briefly-Froth floation process.
7. Write just reaction for hydrolysis of methyl acetate.

Q.2 **(a)** What are activating & deactivating groups? Explain their effect in electrophilic substitution in Benzene. **07**

(b) Explain metallurgy and applications of steel. **07**

OR

(b) Write a note on Optical isomerism. **07**

Q.3 **(a)** Explain Kiliani-Fischer's synthesis with example. **07**

(b) Compare & Justify acidity of acetic acid, chloro acetic acid & dichloro acetic acid. **07**

OR

Q.3 **(a)** Discuss Wohl degradation of carbohydrate. **07**

(b) Write a note on covalent bond with suitable examples. **07**

Q.4 **(a)** Give details of Friedel-Craft's Alkylation. **07**

(b) Write reaction & mechanism of Acid catalyzed esterification of Benzoic acid with methanol. **07**

OR

Q.4 **(a)** Give details of Friedel-Craft's Acylation. **07**

(b) Discuss sulphonation of Benzene with mechanism. **07**

Q.5 **(a)** Explain SN^1 & SN^2 reaction with mechanism & stereochemistry. **07**

(b) Explain hybridization & shapes of various carbocation and carbanion. **07**

OR

Q.5 **(a)** Explain E1 & E2 reaction with mechanism & stereochemistry. **07**

(b) Discuss Walden inversion in detail. **07**

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