

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-III Regular / Remedial Examination December 2010

Subject code: 130404

Subject Name: Organic Chemistry & Unit Process

Date: 15 /12 /2010

Time: 10.30 am – 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) What are organic mechanisms? Explain Friedel-Craft reactions with suitable illustrations. 07
- (b) What are organic reactions? Classify and explain each reaction with at least one example. 07

- Q.2** (a) What is metallurgy? Explain general steps involved in metallurgy with neat diagrams. 07
- (b) Explain hydrolysis reaction conducted in industries. Elaborate on various types of hydrolysis with suitable illustrations. 07

OR

- (b) Give detailed information for hydrogenation process of cottonseed oil. 07

- Q.3** (a) What is isomerism? Classify and explain each type of isomerism with examples. 07
- (b) Explain characteristics of enantiomers and diastereomers and also give difference between them. 07

OR

- Q.3** (a) Mention various destructive and nondestructive methods of hydrogenation in conversion of petroleum products. 07
- (b) Explain thermodynamics and kinetics of Fisher-Tropsch operation for producing liquid fuels. 07

- Q.4** (a) Discuss preparations and properties of carboxylic acids. 07
- (b) Give physico-chemical properties of iron and also draw labeled diagram of blast furnace during metallurgy of iron. 07

OR

- Q.4** (a) What is the advantage of continuous nitration over batch nitration process? Discuss nitration of benzene. 07
- (b) Explain reductive Amination reactions with suitable examples and elaborate the process of Amination by aminolysis. 07

- Q.5** (a) Explain analytical analysis for glucose with its chemical properties and its preparation. 07
- (b) Differentiate between SN_1 and SN_2 type of reactions. 07

OR

- Q.5** (a) What is hybridization? Classify giving suitable examples and also explain hybridization taking place in compounds. 07
- (b) Explain industrial applications of oxidation process. 07
