

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject code: 130501

Subject Name: Organic Chemistry and 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) Discuss the fractional distillation of crude oil and state the various important fractions and their uses **07**  
(b) Write short notes on occurrence, composition and types of crude oil **07**

- Q.2** (a) Write short notes on dyes and pigments **07**  
(b) Define nucleophile and electrophile; explain the nitration of benzene with mechanism **07**

**OR**

- (b) What is synthetic petrol? Describe the method of manufacturing synthetic petrol **07**

- Q.3** (a) With reactions discuss the substitution and sulphonation of benzene **07**  
(b) What is isomerism? Explain the geometrical isomerism in valeric acid and tartaric acid **07**

**OR**

- Q.3** (a) Discuss in detail the properties and application of acetic acid and oxalic acid **07**  
(b) What is a grignard reagent, describe the synthesis of grignard reagent and reactions of grignard reagents with carbonyl groups **07**

- Q.4** (a) Write about general physical and chemical properties of chloroform and ethanol **07**  
(b) Describe about carbohydrates and explain the manufacturing process of glucose **07**

**OR**

- Q.4** (a) Describe in detail the preparation, properties and applications of phenol **07**  
(b) Explain the reaction, mechanism and applications of Perkin reaction **07**

- Q.5** (a) Give examples of polynuclear aromatic compound and explain nitration of naphthalene **07**  
(b) Write short notes on tetracyclic compounds with examples **07**

**OR**

- Q.5** (a) Distinguish and differentiate between natural and synthetic polymers **07**  
(b) Write the chemical reaction, properties and uses of benzene **07**

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