

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

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

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.E. Sem-III (Textile Production) Examination December 2009**  
**Subject code: 132805**  
**Subject Name: ORGANIC CHEMISTRY**

Date: 31 / 12 / 2009

Time: 11.00 am – 1.30 pm

Total Marks: 70

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Give reactions and diagram wherever necessary.

- Q.1 (a)** Fill in the blanks: **07**
1. A molecule is said to be chiral if it cannot be \_\_\_\_\_ on its mirror image.
  2. The formation of Carbonium ions and Carbanions is due to \_\_\_\_\_ fission.
  3. The visible region in electromagnetic radiation is ranging from \_\_\_\_\_.
  4. The solvent which contains acidic hydrogen is \_\_\_\_\_ solvent.
  5. \_\_\_\_\_ synthesis is used to prepare polynuclear hydrocarbon like Naphthalene and Anthracene.
  6. The suitable method for the purification of liquid is \_\_\_\_\_ method.
  7. Nitrobenzene on reduction gives Aniline which on reaction with acetyl chloride gives \_\_\_\_\_.
- (b)** Define the following terms. **07**
1. Polarity
  2. Dipole moment
  3. Hund's rule of multiplicity
  4. Enantiomers
  5. Co-ordinate covalent bond
  6. Bond energy
  7. Huckel rule
- Q.2 (a)** Write the preparation, properties and uses of Alkyl and Aryl halides. **07**
- (b)** Answer the following
1. Explain the term Aromaticity. Show the properties of hetrocyclic compounds which behaves like an aromatic compound with examples. **05**
  2. Write a note on Covalent bond. **02**
- OR**
- (b)** Answer the following
1. Explain the term Polynuclear Hydrocarbon. Write in detail the formation of naphthalene and anthracene from the nature. **05**
  2. Write a note on Ionic bond. **02**
- Q.3 (a)** Write a brief note on **07**

1. Quantum number  
2. Different types of Organic reactions
- (b) Write the difference between 07  
1. Aldehydes and Ketones  
2. Protic and Aprotic solvents
- OR**
- Q.3** (a) Write a brief note on 07  
1. Hybridisation  
2. Attacking Reagent
- (b) Write the difference between 07  
1. Types of Alcohols  
2. Free radicals and Carbonium ions
- Q.4** (a) Explain Stereoisomerism. Write in detail the Geometrical isomerism with suitable examples. 07
- (b) Write the preparation, properties and uses of 04  
1. Naphthalene 03  
2. Pyrrole
- OR**
- Q.4** (a) Explain Chirality. Write in detail the Optical isomerism with special reference to usage of polarimeter. 07
- (b) Write the preparation, properties and uses of 04  
1. Anthracene 03  
2. Thiophene
- Q.5** (a) Write a note on 07  
1. Sublimation, Fractional crystallization  
2. Preparation, properties and uses of Carboxylic acid
- (b) Write in brief 07  
1. Lassigne's test to detect sulphur and nitrogen and Beliestein test.  
2. Isomerism in Tartaric acid
- OR**
- Q.5** (a) Write a note on 07  
1. Simple distillation, Vacuum distillation  
2. Inductive and mesomeric effect.
- (b) Write in brief 07  
1. Nucleophilic substitution and Electrophilic addition reaction  
2. Preparation, properties and uses of Amino compound

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