

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	
	1. Naphthalene	04
	2. Pyrrole	03
	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	
	1. Anthracene	04
	2. Thiophene	03
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	
