Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-III Examination-Dec.-2011

Subject code: 132805 **Date: 23/12/2011**
Subject Name: Organic Chemistry
Time: 2.30 pm -5.00 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)** Fill in the blanks: 07

1. Carbonium ion and Carbanion as reactive intermediates forms due to _____ fission.
2. Aromaticity of any compound can be proved by _____ rule.
3. For purification of any liquid organic molecule _____ method is generally utilized.
4. Diazotization of amines is carried out at _____ temp in presence of $NaNO_2$ and HCl.
5. Due to presence of unshared pair of electrons on N, NH_3 will form _____ angle.
6. Nitro Benzene on reaction with HNO_3 and H_2SO_4 gives _____.
7. The presence of Primary aromatic amines can be confirmed by preparing _____.

(b) Define the following 07

1. Dipole moment
2. Resonance
3. Markonikoff's rule
4. Ionic bond
5. Aufbau principle
6. Enantiomers
7. Polynuclear Hydrocarbon

Q.2 **(a)** Write in general the preparation, properties and uses of Alkyl and Aryl halides. 07

(b) Answer the following 07

1. Simple Crystallization, Fractional Crystallization.
2. Chemistry of Covalent bond.

OR

(b) Answer the following 07

1. Write the preparation properties and uses of Nitrlile compounds.
2. Process of Simple Distillation with neat diagram.

Q.3	**(a)**	Define Isomerism. Explain in detail the Optical isomerism with special reference to the usage of polarimeter to know the concentration of unknown compound through specific rotation.	07
	(b)	Explain Aromaticity in Heterocyclic compound with example of Five members and six members ring compound. Also explain the preparation, properties and uses of Furan.	07

OR

Q.3	**(a)**	Define Isomerism. Write in detail the different form of Structural isomerism with at least two examples in each.	07
	(b)	Write in detail the mechanism of Electrophillic substitution and addition reactions.	07
Q.4	**(a)**	Explain in detail the chemistry of Phenols and Alcohols.	07
	(b)	Explain the formation of Reactive intermediates and Attacking reagents.	07

OR

Q.4	**(a)**	Write the preparation, properties and uses of **1.** Thiophene **2.** Pyridine.	07
	(b)	Explain in detail the chemistry of Aldehydes and Ketones.	07
Q.5	**(a)**	Explain what is Polynuclear Hydrocarbon? Write in detail the formation of Naphthalene. Show some important derivatives of Naphthalene which is utilized for the formation dyes.	07
	(b)	What is Solubility? Write in detail about the Protic and aprotic solvents.	07

OR

Q.5	**(a)**	Explain the chemistry of Anthracene? Show some important derivatives of anthracene which can be utilize as a dyes.	07
	(b)	Write in detail for the following **1.** Different test to find the presence of N, S and Halogens. **2.** Vacuum distillation.	07

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