

B.N. Bandodkar College of Science, Thane

Fourth Semester End Examination - ~~March-2015~~ Additional / ATKT June 15

USCH 403

Marks 75

Time 2 ½ hrs.

- N. B. : 1. All the questions are compulsory.
2. Figures to the right indicate full marks.
3. Use of log table/non programmable calculator is allowed.

Q.1	a	Explain the preparation of oil of mirbane with mechanism.	4
		OR	
	a	Explain diazotization of aniline with mechanism.	4
	b	How is aniline converted into azobenzene and hydrazobenzene?	4
		OR	
	b	Explain WITT's Theory.	4
	c	Give the synthesis of congo red dye.	4
		OR	
	c	Discuss the reduction of nitrobenzene under different conditions.	4
	d	Explain Reimer -Tiemann Reaction with mechanism.	4
		OR	
	d	Explain Friedel-Craft reaction using acid halide with mechanism.	4
	e	Explain Canizzaro's reaction with mechanism.	4
		OR	
	e	Explain Rosenmund Reduction reaction.	4
Q. 2	a	Write a note on hydrolysis of aryl nitrile.	4
		OR	
	a	Explain - i) Aromatic nitriles are generally not obtained from the Unreactive aromatic halides.	4
		ii) Amino group in an aromatic converted into carboxyl group.	
	b	Explain acid catalysed esterification of carboxylic acid with alcohols.	4
		OR	
	b	Convert the following reactions:-	4
		1) Bromobenzene to benzoic acid,	
		2) p-nitrotoluene to p-toluidine,	
		3) Ester from silver salt of acid,	
		4) Benzenesulphonic acid to Benzene.	
	c	Discuss the degradative reactions split organic molecules.	4
		OR	
	c	Explain chemical resolution of a racemic mixture.	4
	d	How will you prepared 1 and 2 naphthalene sulfonic acid ?	4
		OR	
	d	Explain - Decarboxylation of aromatic carboxylic acid.	4

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- e Explain the role of labeled O^{18} in acid catalyzed esterification reactions. 4
OR
- e How will you prepare Saccharin and Chloramine-T. 4
- Q. 3 a Write any five principles of Green Chemistry. 4
OR
- a Describe need and importance of Green Chemistry. 4
- b Discuss the concept of Chemoselectivity with suitable example. 4
OR
- b Write a short note on Regioselectivity. 4
- c Explain E- Factor in detail with suitable example. 4
OR
- c Give the details for Green Chemistry and Catalysis. 4
- d Write a short note on Green Solvent. 4
OR
- d Give the process for synthesis of Phenol. 4
- e Discuss concept of Atom Economy in detail. 4
OR
- e Give the process for synthesis of Methyl Alcohol. 4
- Q. 4 a Explain Hofmann Reaction with examples. 3
OR
- a Explain Gattermann Reaction with examples. 3
- b Give CIP rules of assigning R or S Configuration. 3
OR
- b Write the structure of 3
i) p-Toluene Sulfonyl Chloride,
ii) p-Acetamidebenzene Sulfonyl Chloride,
iii) p-Toluene Sulfonic acid.
- c Enlist the types of Catalyst used in Green Chemistry. 3
OR
- c Give the list of different types of Selectivity. 3
- d How can you prepare m-Nitrophenol from m-Dinitrobenzene? 2
OR
- d Explain effect of substituents on basicity of aniline. 2
- e Write any four applications of carboxylic acid. 2
OR
- e Write the reaction of mesitylene to mesitoic acid. 2
- f What are the properties of liquid CO_2 2
OR
- f Give the properties of Biocatalyst. 2

*****End*****