

B.N. Bandodkar College of Science, Thane
S.Y.B.Sc - Second Term End Examination MARCH 2012

Chemistry

Paper-III

Duration 2 hrs

Max Marks-60

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

Q. 1	A	a) Explain effect of substituents on basicity of aniline.	2
		OR	
		a) Discuss reduction of nitrobenzene in alkaline medium.	2
		b) Write reactions of amines with carbonyl compounds.	2
		c) Give reaction of benzaldehyde with HCN.	1
	B		
	a	Write uses of p-TSA.	2
		OR	
	a	Explain acidity is powerful resonance for stabilization of its anion.	2
	b	Write IUPAC names of 1.salicylic acid 2.phthalic acid.	1
		OR	
	b	Explain staggered and eclipsed conformations.	1
	c	Write any two applications of sulphonic acids.	1
	d	Define Torsional Angle.	1
	C		
	a	Give synthesis of Styrene.	2
		OR	
	a	Give synthesis of Phenol from toluene by two stage oxidation.	2
	b	Give synthesis of phenol from chlorobenzene by caustic process.	2
	c	Define atom economy	1
		PTO	

Q 2	a	Explain Gattermann reaction OR	4
	a	Explain Benzoin condensation reaction with mechanism.	4
	b	Explain Vilsmeier-Haack formylation reaction with mechanism. OR	4
	b	Explain Hofmann reaction with mechanism.	4
	c	Explain following reactions: i) azo coupling reaction of diazonium salts. ii) Sandmeyer reaction.	4
d	Explain Knoevenagel reaction with mechanism.	3	
Q3	a	Write a note on stereochemistry of cyclic compound. OR	4
	a	Write a note on different types of degradative reactions.	4
	b	Write synthesis of sulphonic acid. OR	4
	b	Discuss conformational analysis in propane.	4
	c	An organic compound [G] having molecular formula C ₈ H ₁₀ on oxidation gave a dibasic acid. The acid on heating gave anhydride. On distillation with soda lime the acid gave benzene. Assign the structural formula of [G].	4
d	Explain chemical method of resolution of racemic mixture and its advantage.	3	
Q 4	a	Discuss synthesis of Phenol by Benzene sulphonate process OR	4
	a	Explain synthesis of Dodecyl Benzene Sodium Sulfonate.	4
	b	Explain synthesis of Phenol by Rasching process. OR	4
	b	Write a note on Auxilliary substances.	4
	c	Explain w.r.t. Green Chemistry. i) Green starting material ii) Degradable products.	4
d	Explain atom economy with examples.	3	
