TEST PAPER NO. 13

TOPIC: ORGANIC FUNCTION GROUP IV
NITROGEN CONTAINING COMPOUND

M.M.				ITME: 3 HRS						
Name	of Student		_ Roll No							
Q.NO.	1-10 carries 1 mark, 11-20 2 marks, 2	21-25 car	ries 3 marks,	26 carries 5						
marks.										
1.	Arrange the following in decreasing order $C_6H_5NH_2$, $C_2H_5NH_2$, $(C_2H_5)_2NH$		r basic streng	th:						
2.	Write reactions of the final alkylation p	product of	aniline with e	xcess of methyl						
	iodide in presence of sodium carbonate solution.									
3.	Describe a method for the identification		ary, secondary	and tertiary						
	amines. Also write chemical equaions of the reaction invovived?									
4.	Why pk_b of aniline is more than that of	methylam	mine.							
5 .	Ethylamine is soluble in water but anilien is not why?									
6.	Aniline does not undergo Friedel Crafts reaction. Why?									
7 .	Gabriel phthalimide synthesis is preferred for synthesising primary amines why?									
8.	What is Diazotization reaction. Explain	with exam	nple?							
9.	Write the IUPAC name for following con	mpound:								
	a. $(CH_3)_2CHNH_2$ b. C_6H	15NHCH3								
10.	Write the structures of different isome	eric amine	s correspondin	g to the						
	molecular formulae $C_4H_{11}N$									
11.	Write the chemical equations for the fo	ollowing re	actions:							
	a. Reaction of ethanolic NH3 with C	C ₂ H ₅ Cl								
	b. Ammonolyisis of benzyl chloride	and react	ion of amine so	o formed.						
12.	Write down the chemical equations for	the follow	ing conversions	; :						
	a. CH ₃ CH ₂ Cl to CH ₃ CH ₂ CH ₂	2NH2								
	b. $C_6H_5CH_2CI$ to $C_6H_5CH_2CI$	1_2NH_2								
13.	Write the sturctures and IUPAC names	of								
	a. The amide which gives propanamie by hoffmann bromamide reaction									
	b. The amine produced by theHoffr	mann degr	adation of ber	ızamide						
14.	How will you distinguish b/w									
	a. Methyl amine and dimethylamine	b.	Anile and be	nzylamine						
15	Write short note on:									
	a. Carbylamine Reaction	b.	Hoffmann Bi	romamide						
16	Explain the basic nature of primary, sec	condary a	nd tertiary am	ine in						
	a. Vapour Phase	b.	Aqueous solu	ıtion						
17 .	Convert:									
	i. 3-Methylaniline into 3-nitrotolue	ene								
	ii. Aniline into 1,3,5 - tribromoben:									
18.	How will you convert 4-nitrotoluene to 2	2-bromobe	enzoic acid (5	steps) and write						
	the TUPAC name of each intermediate n	roduct								

19.	What o	are Diazoni	um compou	nd? Wr	rite its react	ion with:					
	a.	KI			Ь.	HBF ₄	ŀ				
20.	Explain	the:									
	a.	Although amino group is o- and p- directing in aromatic electrophilic									
		substitution reactions, aniline on nitration gives a substantial amount of									
		m-nitroani									
	b. Methylamine in water reacts with Ferric chloride to precipitate hydrated										
21	ferric oxide. Write the chemical reaction of Methylamine with following agent:										
21.					•						
22	a. Define	HNO₂	b .	CHCL	3 and KOH	C.	CH ₃ COCI				
22.				L	A	: <u> </u>	Tanananida				
22	a.	Coupling re		b.	Ammonolysi	s c.	Isocyanide	Test			
23.	Accomplish the following conversion: a. Benzamide to toluene										
	a. b.										
	c.										
24	Explain		iene io p-c	J.11101 0Q1	niinie						
	a.		f nri sec a	nd ter	amine with a	rylsulpho	nyl chloride				
	ь. b.	Reacton of pri,sec and ter amine with arylsulphonyl chloride Bromination of aniline with Br₂ in presence of water									
	c. Sulfonation of Aniline										
25		e the follow	-								
	a. In decreasing order of the pKb values:										
		$C_2H_5NH_2$, $C_6H_5NHCH_3$, $(C_2H_5)_2NH$ and $C_6H_5NH_2$									
	b .	In increasing order of the basic strength									
		$C_6H_5NH_2$, $C_6H_5N(CH_3)_2$, $(C_2H_5)_2NH$ and CH_3NH_2									
	c.	In increasing order of boiling point:									
	C_2H_5OH , $(CH_3)_2NH$, $C_2H_5NH_2$										
26	Give the structures of A, B and C in the following reactions:										
	a.	CH ₃ CH ₂ I	NaCN	A	OH-	В	NaOH + Br2	C			
	b.	C ₆ H ₅ N ₂ Cl	CuCN	A	H2O/H+	В	NH3	C			
			L/Ch l		1:41144		11102/06				
	c.	CH ₃ CH ₂ Br	KCN	A	LiAlH4	В	HN02/ 0 C	C			
			VITI3/Y		NaOBr	_	NaNO2/HCI	_			
	d.	CH₃COOH	NH3/∆	A	- IAGOBI	В	NaNO2/HCI	C			
1,		a 11 110	Fe/HCI		HN02/273K	_	C6H5OH _	•			
	e.	C ₆ H ₅ NO ₂		A		В		C			