



बिरसा मुंडा ट्रायबल युनिवर्सिटी Birsa Munda Tribal University

राजपिपला, जि० नर्मदा Rajpipla, Dist. Narmda

Established by Tribal Development Department, Govt. of Gujarat

School of Science

M.Sc. (Chemistry) Programme

Subject Code & Name: - MS02CCHE03 & Practicals

Teaching and Evaluation Scheme:

Teaching Scheme				Examination Scheme			
Credits				Component Weightage			
				Internal		External	
L	T	P	Total	TH	PWE	TH	PWE
-	-	4	4	-	50	-	50

Programme Name	M.Sc. Chemistry
Semester	II
Course Code	MS02CCHE03
Course Title	Practicals
Course Content Type (Th./Pr.)	Practicals
Course Credit	4
Sessions+ Lab. Per Week	4
Total Teaching/Lab. Hours	60 Hours
* 2 Laboratory = 1 Session	

ORGANIC CHEMISTRY

Sr. No.	(Organic-I)- Synthesis
1.	Aspirin from salicylic acid [Acetylation]
2.	Acetanilide from aniline
3.	p-Bromoaniline from aniline [Protection, Bromination and Deprotection]
4.	p-nitroaniline from aniline [Protection, Nitration and Deprotection]
5.	Nitrobenzene from benzene/ m-dinitrobenzene from nitrobenzene [Nitration]
6.	p-nitrobromobenzene from bromobenzene
7.	Picric acid from phenol
8.	o- and p-nitrophenol from phenol
9.	2,4,6-tribromophenol/ 2,4,6-tribromoaniline [Bromination]
10.	1,3,5-tribromobenzene from aniline [Bromination and deamination]
11.	1-Phenylazo- β -naphthol [Diazo coupling]
12.	Methylorange from sulphanilic acid
13.	2,5-Dimethylbenzenesulfonic acid [Sulphonation]
14.	Terphthalic acid from p-xylene [Oxidation]



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15.	m-nitroaniline from nitrobenzene [nitration and partial Reduction]
16.	Phenol Formaldehyde Resin
17.	TLC for separation and R _f
18.	value determination of components in a mixture

Basic Text & Reference Books:-

1. Elementary Practical Organic Chemistry (Part 1-3) By A. I. Vogel
(CBS publications)

PHYSICAL CHEMISTRY

Sr. No.	(Physical- I)
1.	To determine the rate of acid – catalyst iodination of acetone in presence of excess acid and acetone at room temperature
2.	To determine the molecular weight of given liquid by steam distillation method
3.	Determination of the Critical micelle concentrations (CMC) and surface active parameters of surfactant by surface tension method.
4.	To determine the transition temperature of Glauber's salt by solubility method
5.	To determine the partition coefficient of ammonia between CHCl ₃ and H ₂ O

Basic Text & Reference Books:-

1. Experimental Physical Chemistry by R. C. Das & B. Behera, (Tata McGraw hill Publishing Company Ltd., New Delhi)
2. A Laboratory Manual of Experiments in Physical Chemistry by D. Brennan and C. F. H. Tipper, (McGraw hill Publishing Company Ltd., London)
3. Systematic Experimental Physical Chemistry by S. W. Rajbhoj and T. K. Chondhekar, (Anjali Publication, Aurangabad)
4. Advanced Practical Physical Chemistry by J. B. Yadav, (Goel Publishing House, Meerut)
5. Experimental Physical Chemistry by G. Peter Matthews, (Clarendon Press, Oxford, London)
6. Experimental Physical Chemistry by V. D. Athawale and Parul Mathur, (New Age International Publishers, New Delhi)
7. Advanced Physical Chemistry Experiments by Gurtu and Gurtu, (Pragati Prakashan, Meerut)
8. Advanced Physico-Chemical Experiments by J. Rose, (Sir Isaac Pitman & Sons Ltd., London)
9. Experiments in Physical Chemistry by D. P. Shoemaker, C. W. Garland and J. W.

L:: Lecture, T:: Tutorial, P:: Practical

(PWE:: Practical Work Examination)

(PWE includes Laboratory practical work, project work, viva simulation exercise work etc.)