



बिरसा मुंडा ट्रायबल युनिवर्सिटी Birsā 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: MS01ECHE01 & Drugs and Dyes

Teaching and Evaluation Scheme:

Teaching Scheme				Examination Scheme			
Credits				Component Weightage			
				CCE		SEE	
T		P	Total	TH	PWE	TH	PWE
2		2	4	25	25	25	25

Programme Name	M.Sc.
Semester	I
Course Code	MS01ECHE01
Course Title	Drugs and Dyes
Course Content Type (Th./Pr.)	Theory & Practical
Course Credit	4
Sessions+ Lab. Per Week	4
Total Teaching/Lab. Hours	60 Hours
* 2 Laboratory = 1 Session	

Learning Objectives

1. To learn about the synthesis, structure, classification, and action of therapeutic agents.
2. To understand how drugs interact with the body and treat diseases.
3. To understand the chemical structure and properties responsible for color.
4. To develop dyes with better color strength, durability, and safety.
5. To study applications of dyes in textiles, food, cosmetics, inks, and biological staining.
6. To improve industrial processes for coloring materials efficiently and economically.

Prerequisites (if any)

Learning Outcomes

On the Completion of this course, students will able to:

1. Classify drugs into different categories such as analgesics, antibiotics, antiseptics, antipyretics.
2. Distinguish between therapeutic effects and side effects of drugs.
3. Explain the mechanism of drug action in the human body.
4. Define dyes and explain their importance in textiles, food, cosmetics, and other industries.
5. Describe the basic structure and properties of dyes, including chromophores and auxochromes.



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Detailed Contents		
UNIT	TOPIC/SUB-TOPIC	TEACHING HOURS
I	Drugs: ➤ Introduction, Characteristic of drugs. ➤ Terminology, Classification of drugs. ➤ Antimalarials: Malaria cycle, classification. ➤ Synthesis and uses of Chloroquine and Primaquine ➤ Antipyretics & Analgesics: Classification, Synthesis and uses of Paracetamol, Phenacetin, Ibuprofen. ➤ Sulphanilamide, sulphathiazole, succinoyl, mechanism of action of sulpha drugs.	15
II	Synthetic Dyes: ➤ Introduction, classification of dyes, colour and constitution. ➤ Methods of preparation. ➤ Synthesis and Uses of para red, aniline yellow, methyl orange, congo red, malachite green, crystal violet, phenolphthalein and fluorescein.	15
Text Book(s)		
1.		
Reference Books		
1. Medical Chemistry by Ashutosh Kar New Age International Publishers 2. Finar I. L Organic Chemistry Vol 1 & 2 ELBS/ Pearson 1982 3. Chatwal G; (1985) Synthetic Dyes, Himalaya Publication. 4. V K Ahluwalia and Renu Agrawal; (2000), Practical Organic Chemistry Preparation and Quantitative Analysis.		
Web Resources		
1. Google books, INFLIBNET, Google Web		
Required Software(s) (if any)		



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Practical(s) (if any)	
1. Synthesis of Paracetamol. 2. Synthesis of Aspirin 3. Synthesis of Phenolphthalein 4. Synthesis of fluorescein. 5. Synthesis of para red and aniline yellow.	30

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

CCE:: Continuous and Comprehensive Evaluation

(CCE Theory includes Mid Semester Examination, Assignment, MCQ quizzes, Seminar, Reflective notes, class participation, case analysis and presentation; slip tests (announced/ surprised), attendance etc. or any combination of these)

PWE:: Practical Work Examination

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

SEE:: Semester End Evaluation