

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS**Department of Chemistry****Bankura Christian College****ACADEMIC YEAR: 2023-24 (Semester 2nd /4th /6th)****6th Semester (Hons) Theory (January,2023 to June, 2023)****Name of faculty member: Dr. BibekanandaMahanti****Subject: Chemistry**

DSE T3 – Analytical Methods in Chemistry

Unit – 1.

Separation techniques

1. Solvent extraction: Classification, principle and efficiency of the technique. Mechanism of extraction: extraction by solvation and chelation.

2. Technique of extraction: batch, continuous and counter current extractions.

Unit – 2

3. Qualitative and quantitative aspects of solvent extraction: extraction of metal ions from aqueous solution, extraction of organic species from the aqueous and nonaqueous media.

4. Chromatography: Classification, principle and efficiency of the technique.

Unit – 3

Mechanism of separation: adsorption, partition & ion exchange.

5. Development of chromatograms: frontal, elution and displacement methods.

Unit – 4.

6. Qualitative and quantitative aspects of chromatographic methods of analysis: IC, GLC, GPC, TLC and HPLC.

MONTH/YEAR	WEEK	PORTIONS
March 2023	2 nd	Separation techniques: 1. Solvent extraction: Classification, principle and efficiency of the technique
	3 rd	Mechanism of extraction: extraction by solvation and chelation.
	4 th	2. Technique of extraction: batch, continuous and counter current extractions.
	5 th	Class Test-1/ Revision of Unt-1
April 2023	1 st	3. Qualitative and quantitative aspects of solvent extraction: extraction of metal ions from aqueous solution
	2 nd	Extraction of organic species from the aqueous and nonaqueous media.
	3 rd	4. Chromatography: Classification, principle and efficiency of the technique.
	4 th	Class Test-2
May 2023	1 st	Mechanism of separation: adsorption & partition & ion exchange
	2 nd	Mechanism of separation: Ion exchange
	3 rd	5. Development of chromatograms: frontal, elution and displacement methods.
	4 th	Revision of Unt-3
June 2023	1 st	Qualitative and quantitative aspects of chromatographic methods of analysis: IC, GLC
	2 nd	TLC
	3 rd	HPLC.