ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

Department of Chemistry

Bankura Christian College

ACADEMIC YEAR: 2023-24 (Semester 2nd /4th /6th)

6th Semester (DSE) Theory (January,2023 to June, 2023)

Name of faculty member: Dr.Mahendra Ghosh

Subject: Chemistry
Core-DSE-4, Polymer Chemistry

Unit – 1
Introduction and history of polymeric materials
Different schemes of classification of polymers, Polymer nomenclature, Molecular forces and chemicalbondingin polymers, Texture of Polymers.

Unit – 2

Functionality and its importance
Criteria for synthetic polymer formation, classification of polymerization processes,
Relationships between functionality, extent of reaction and degree of polymerization.Bifunctional systems, Poly-functional systems.

Unit – 3

Kinetics of Polymerization
Mechanism and kinetics of step growth, radical chain growth, ionic chain (both cationic and anionic) and coordination polymerizations, Mechanism and kinetics of copolymerization, polymerization techniques.

Unit – 4

Determination of molecular weight of polymers
(Mn, Mw, etc) by end group analysis, viscometry, light scattering and osmotic pressure methods. Molecular weight distribution and its significance.Polydispersity index.

MONTH/YEAR	WEEK	PORTIONS
March 2023	2nd	Introduction and history of polymeric materials Different schemes of classification of polymers,
	3rd	Polymer nomenclature, Molecular forces and chemicalbondingin polymers, Texture of Polymers.
	4th	Functionality and its importance Criteria for synthetic polymer formation,
	5th	Revision
April 2023	1st	classification of polymerization processes, Relationships between functionality, extent of reaction and degree of polymerization
	2nd	Bifunctional systems, Poly-functional systems.
	3rd	Mechanism and kinetics of step growth, radical chain growth,
	4th	Class Test-1

May 2023	1st	ionic chain (both cationic and anionic) and coordination polymerizations,
	2nd	Mechanism and kinetics of copolymerization, polymerization techniques.
	3rd	Mn, Mw, etc) by end group analysis, viscometry, light scattering and osmotic pressure methods
	4th	Revision of Unt-3
June 2023	1st	Molecular weight distribution and its significance.Polydispersity index.
	2nd	Revision
	3rd	Class Test-2