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

Core T13 - Inorganic Chemistry V

Unit – 1.

Organometallic Chemistry:

Definition and classification of organometallic compounds on the basis of bond type.Concept ofhapticity of organic ligands.18-electron and 16-electron rules (pictorial MO approach).

Unit – 2

Applications of 18-electron rule to metal carbonyls, nitrosyls, cyanides.General methods of preparation of mono and binuclear carbonyls of 3d series.Structures of mononuclear and binuclear carbonyls.pi-acceptor behaviour of CO, synergic effect and use of IR data to explain extent of back bonding.

Unit – 3

Zeise's salt: Preparation, structure, evidences of synergic effect. Ferrocene: Preparation and reactions (acetylation, alkylation, metallation, Mannich Condensation).

Unit – 4.

Reactions of organometallic complexes: substitution, oxidative addition, reductive elimination and insertion reactions.

MONTH/YEAR	WEEK	PORTIONS
March 2023	2nd	Organometallic Chemistry: Definition and classification of organometallic compounds on the basis of bond type.
	3rd	Concept of hapticity of organic ligands
	4th	18-electron and 16-electron rules (pictorial MO approach)
	5th	Class Test-1/ Revision of Unt-1
April 2023	1st	Applications of 18-electron rule to metal carbonyls, nitrosyls, cyanides
	2nd	General methods of preparation of mono and binuclear carbonyls of 3d series.
	3rd	Structures of mononuclear and binuclear carbonyls.
	4th	Class Test-2
May 2023	1st	Zeise's salt: Preparation, structure, evidences of synergic effect.
	2nd	Mechanism of separation: Ion exchange
	3rd	pi-acceptor behaviour of CO, synergic effect and use of IR data to explain extent of back bonding
	4th	Revision of Unt-3
June 2023	1st	Zeise's salt: Preparation, structure, evidences of synergic effect.
	2nd	Ferrocene: Preparation and reactions (acetylation, alkylation, metalation)
	3rd	Ferrocene: Preparation and reactions (Mannich Condensation).