UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING, ROURKELA

DEPARTMENT OF CHEMICAL ENGINEERING

LESSON PLAN
Semester-3rd
SUBJECT- INDUSTRIAL CHEMISTRY (TH:2)
PREPARED BY- RAGHUNATH MARANDI

	Topics covered
WEEK 1	Nomenclatures of organic compounds,
	Nomenclatures of organic compounds
	Functional groups, Classification of organic compounds
WEEK 2	Aliphatic Compounds, closed chain compounds
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	Unsaturated. Alkanes, alkenes, alkanes, cycloalkanes.
WEEK 3	Unsaturated. Alkanes, alkenes, alkanes, cycloalkanes.
	Unsaturated. Alkanes, alkenes, alkanes, cycloalkanes
	Revision ,Quiz test
WEEK 4	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of ethane
	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of ethane
	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of methane
WEEK 5	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of ethylene
	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of methanol
	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of ethanol
WEEK 6	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of acetic acid
	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of formaldehyde
	Chemical reactions, methods of preparation, chemical properties, physical properties, industrial applications of acetone. Revision ,Quiz test
WEEK 7	Alkyl halides, alcohol and phenols

	Concept of aromaticity, structure of benzene, properties of benzene,
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WEEK 8	Reactions of benzene, halogenation, hydrogenation, pyrolysis
	Classification of alkyl halides,
	Isomerism in alkyl halides, properties of alkyl halides
WEEK 9	Substitution reaction, elimination reaction, alcohols.
	Classification, preparation, properties, reaction of phenols
	Revision ,Quiz test
WEEK 10	Types of colloidal systems
	Characteristics and properties of colloids
	Methods of preparation of colloids
WEEK 11	Purification of colloids
	Applications of Colloids
	Types and properties of Emulsion
WEEK 12	Role of Emulsifier; Preparation of Emulsion
	Types, Properties,applications of Emulsion; Gel
	Revision ,Quiz test
WEEK 13	Physical structure and functionality of Polymers
	Addition Polymerization and Condensation Polymerization
	Methods of Polymerization
WEEK 14	Methods of Polymerization
	Methods of Polymerization
	Thermosetting and Thermoplastic Polymers
WEEK 15	Properties and Applications: Polyethylene, Polyvinyl Chloride
	Properties and Applications: Phenol Formaldehyde, Polyurethane,
	Properties and Applications: SBR, Polyamide, Polyester, Polypropylene

BOOKS FOR REFERENCE:

- R. T. Morrison, R. N. Boyd and S.K Bhattacharjee, „Organic Chemistry" Pearson
- B. R. Puri, L. R. Sharma and M. S. Pathania, "Principles of physical chemistry" Vikas Publishing House Pvt Ltd.

	Prepared by	Approved by
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SESSION	**2025-2026 (Semester from Date: 14. 07. 2025 to Date: 15.11.2025)**	