

LESSON PLAN
SUBJECT- APPLIED CHEMISTRY

Discipline : Mechanical/ Mechatronics Engg.		Semester: 2nd Sem	Name of the Teaching Faculty : Kuni Majhi
Subject : TH.2b		No. of Days / per week class allotted	Semester From date : 04.02.2025 17.05.2025 To Date :
Month	Week	Day	Topics
FEBRUARY	2nd	2nd	Graphical presentation of water distribution on Earth (pie or bar diagram). Classification of soft and hard water based on soap test
		5th	salts causing water hardness, unit of hardness and simple numerical on water hardness
	3rd	2nd	Cause of poor lathering of soap in hard water, problems caused by the use of hard water in boiler (scale and sludge, foaming and priming, corrosion etc)
		5th	quantitative measurement of water hardness by ETDA method, total dissolved solids (TDS) alkalinity estimation.
	4th	2nd	quantitative measurement of water hardness by ETDA method, total dissolved solids (TDS) alkalinity estimation.
		5th	Water softening techniques – soda lime process
	5th	2nd	Water softening techniques – zeolite process
		5th	Water softening techniques – ion exchange process
MARCH	2nd	2nd	Municipal water treatment (in brief only) – sedimentation
		5th	Municipal water treatment (in brief only) – coagulation
	3rd	2nd	Municipal water treatment (in brief only) – filtration, sterilization
		5th	Water for human consumption for drinking and cooking purposes from any water sources and enlist Indian standard specification of drinking water (collect data and understand standards).
	4th	2nd	Water for human consumption for drinking and cooking purposes from any water sources and enlist Indian standard specification of drinking water (collect data and understand standards).
		5th	REVISION
	5th	2nd	SURPRISE TEST
		5th	Polymers – monomer, homo and co polymers, degree of polymerization, simple reactions involved in preparation and their application
APRIL	1st	2nd	Thermoplastics and thermosetting plastics (using PVC, PS, PTFE)
	2nd	5th	Thermoplastics and thermosetting plastics (nylon – 6, nylon-6,6 and Bakelite)
		4th	Rubber and vulcanization of rubber.
	3rd	2nd	Unit 4: Chemistry of Fuels and Lubricants Definition of fuel and combustion of fuel, classification of fuels, calorific values (HCV and LCV), calculation of HCV and LCV using Dulong’s formula.
	4th	5th	Proximate analysis of coal solid fuel petrol and diesel - fuel rating (octane and cetane numbers), Chemical composition, calorific values and applications of LPG, CNG, water gas, coal gas, producer gas and biogas.

		2nd	Lubrication – function and characteristic properties of good lubricant, classification with examples, lubrication mechanism – hydrodynamic and boundary lubrication,
	5th	5th	physical proper- ties (viscosity and viscosity index, oiliness, flash and fire point, could and pour point only)
MAY	1st	2nd	chemical properties (coke number, total acid number saponification value) of lubricants.
	2nd	5th	REVISION
		2nd	CLASS TEST
	3rd	5th	REVISION