

	GURGAON INSTITUTE OF TECHNOLOGY & MANAGEMENT	
	Department- <u>Applied Science & Humanities</u>	Session_ <u>Feb-May, 18</u>
Branch/Sem <u>2nd Sem.</u>		Subject Name Code- <u>Engineering Chemistry CH-101-F</u>
COURSE PLAN		TEACHER Dr. Reena

Books Referred:

- Chemistry for Engineers by Dr. B.K. Ambasta,
- Engg. Chemistry by Ms. Shashi Chawla
- Elementary Organic Spectroscopy by Y.R. Sharma
- Concise Inorganic Chemistry by J. D. Lee
- Engg. Chemistry by Jain & Jain
- Principles of Physical Chemistry by Puri Sharma & Pathania
- Physical Chemistry by AS Negi & SC Anand.
- Polymeric Foams by Chau Tarng Lee & Chul & B Park.

Lecture No.	Topics to be Covered
1	Terminology & Derivation of Phase Rule
2	One component system (H ₂ O system)
3	One component system (CO ₂ system)
4	Two component system (Lead-Silver system)
5	Congruent system (Zn-Mg)
6	Incongruent system (Na ₂ SO ₄ -H ₂ O), applications & Cooling curves.
7	Introduction & types of catalysts Homogeneous & Heterogeneous catalysis
8	Enzymatic Catalysis & Michaelis – Menton Equation

9	Sources of Water, Impurities of Water, Hardness of water & its units
10	Determination of Hardness by EDTA method
11	Numerical problems related to hardness
12	Determination of Alkalinity Numerical problems related to alkalinity
13	Scale sludge and its preventive methods
14	Caustic embrittlement & Boiler corrosion, Treatment of water for domestic uses, coagulation, sedimentation, filtration & disinfection.
15	Softening Processes : Soda lime & Zeolite Process
16	Ion exchange process & demineralization Desalination
17	Introduction of corrosion, Galvanic & concentration cell & dry corrosion
18	Wet corrosion
19	Types of corrosion& Factors affecting corrosion & preventive measures
20	Friction, Introduction of lubricants & Mechanism of lubrication
21	Classification of lubricants
22	Greases, Additives & Synthetic lubricants
23	Properties of lubricants & Biodegradable lubricants
24	Polymerization & its types, Plastics, PVC, PVA, Teflon, SBR, GRN, PF, UF& Silicones
25	Mechanism of polymerization (Free radical and Cationic), Anionic and coordination polymerization
26	Biodegradable Polymers Composites & effect of structures on the properties of polymers

27	Thermal methods –TGA
28	DTA & DSC
29	Absorption Laws & UV Spectroscopy
30	IR Spectroscopy & Flame photometry

Prepared by:	Approved by:
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