Engg Chem - (Sec D)

BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)

STUDENT'S ATTENDANCE REGISTER

Time / Day	9:05 – 9:55	9:55 – 10:45	11:35 – 12:25	1:05 – 1:55	
Mon	CHEM				
Tue				CHEM	
Wed		CHEM			
Thu	CHEM				
Fri					
Sat					

Year/ Session : 2023 (winter)	Semester from Date: 16.8.23 To Date : 11.12.23
Semester & Branch	1st semester & Electrical
Subject with Code	Engineering Chemistry (Th-2b)
Name of the Faculty Member	S. Puja Reddy
No of Weeks:	No of Days per Week Class Allotted : 5

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			Physical chemistry
A			chapter-1 Atomic structure :
U	1st week	16/08/23	-> fundamental particles (electron, proton & neutron Defination, mass & charge). Rutherford's Atomic model (Postulates & failure)
G		17/08/23	-> Atomic mass & mass number defination & examples, properties of isotope, isobar & isotone.
U	2nd week	21/08/23	-> Bohr's Atomic model (Postulates only), Bohr-Bury scheme : Afbau principle.
S		22/08/23	-> Hunds Rule, Electronic configuration of up to 30 elements.
T			chapter-2 chemical Bonding :
		23/08/23	-> Defination & types of chemical Bonding

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Month	Week	Class Day	Theory/Practical Topic
AUGUST	2nd Week	24/08/23	→ formation of NaCl, $MgCl_2$, H_2, Cl_2. O_2; N_2.
		28/08/23	→ formation of H_2O, CH_4, NH_3, NH_4^+, SO_2.
	3rd Week		chapter-3 Acid-Base theory:
		29/08/23	→ concept of Arrhenius, Lowry-Bronsted theory.
		31/08/23	→ Lewis theory of Acid & Base with example, Neutralization of acid & base.
SEPTEMBER	4th Week	04/09/23	→ Defination of salt, Types of salt (Normal, Acidic salt)
		05/09/23	→ Basic, double, complex & mixed salts defination with example.

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Month	Week	Class Day	Theory/Practical Topic
			Chapter-4 Solution :
S	4th Week	07/09/23	-> Defination of atomic weight molecular weight, equivalent weight.
E		11/09/23	-> Equivalent weight of acid, Base and salt.
P	5th Week	12/09/23	-> Modes of expression of concentration (Molarity, Normality). with simple problems.
T		13/09/23	-> Modes of expression of concentration (Normality & molality)
E		14/09/23	-> pH of solution (Defination with simple numericals) Importance of pH in industry.
M			Chapter-5
B			Electrochemistry :
E	6th Week	18/09/23	-> Defination & types of electrolyte with example. electrolysis with example of NaCl.
R			

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Month	Week	Class Day	Theory/Practical Topic
S	6th Week	21/09/23	→ Faraday's 1st laws of electrolysis (statement & mathematical expression) & simple numericals.
E		25/09/23	→ Faraday's 2nd laws of electrolysis (statement & mathematical expression & simple numericals.
P	7th WEEK		
T		26/09/23	→ Industrial application of electrolysis - electroplating (zinc only).
E			Chapter-6
M			Corrosion:
B		27/09/23	→ Defination & types of corrosion.
E		28/09/23	→ Mechanism of rusting of iron only, Protection from corrosion.
R			

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Month	Week	Class Day	Theory/Practical Topic
			Inorganic chemistry chapter-7 Metallurgy :
O	8th Week	03/10/23	→ Defination of mineral, ores, gangue with example. Distinction between ores & minerals.
C		04/10/23	→ General method of extraction of metal i) ore Dressing., (ii) concentration
T		05/10/23	Gravity separation).
O		09/10/23	→ Magnetic separation, froth floating leaching.
B	9th Week	10/10/23	→ Oxidation (calcinations, Roasting)
		11/10/23	→ Reduction (Smelting)
E		12/10/23	→ Defination & example of flux & slag,
R	10th Week	16/10/23	→ Refining of the metal (electro refining & distillation only).

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Month	Week	Class Day	Theory/Practical Topic
			Organic chemistry chapter - 9 Hydrocarbon :
OCTOBER	10th Week	17/10/23	→ Saturated and unsaturated hydrocarbon (Defination with example), Aliphatic & Aromatic hydrocarbon (Huckle's rule only)
		18/10/23	→ Difference between Aliphatic and aromatic hydrocarbon.
		19/10/23	→ IUPAC system of nomenclature of Alkane.
	11th Week	30/10/23	→ IUPAC system of nomenclature of Alkene
		31/10/23	→ IUPAC system of nomenclature of Alkyne.
NOVEMBER	12th Week	01/11/23	→ IUPAC system of nomenclature of Alkyl halide & alcohol.
		02/11/23	→ Bondline notation.

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Month	Week	Class Day	Theory/Practical Topic
N	13th week	06/11/23.	→ Uses of some common aromatic compound Benzene, Toluene., BHC
O		07/11/23	→ Uses of some common aromatic compound Phenol, naphthalene
V		08/11/23	→ Anthracene & Benzoic acid. Industrial chemistry chapter-10 Water Treatment :
M		09/11/23	→ Sources of water, soft water hard water, hardness.
B	14th week	13/11/23	→ Types of hardness (temporary on carbonate & permanent removal of hardness by lime soda method.
E			
R		14/11/23	→ Principle, process & advantage of hot lime & cold lime. advantage of hot lime over cold lime process.

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Month	Week	Class Day	Theory/Practical Topic
N	14th week	15/11/23	→ organic ion exchange method (Principle, process & regeneration of exhausted resins).
O			chapter -11 Lubricants :
V		16/11/23	→ Defination of lubricants. types of lubricants (solid, liquid & semisolid with example).
E			
M	15th week	20/11/23	→ specific use of lubricants Graphite, oils, Grease. purpose of lubricants.
B			chapter -12 fuel:
E		21/11/23	→ Defination & classification of fuel, Defination of calorific value of fuel.
R			
		22/11/23	→ choice of good fuel.

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Month	Week	Class Day	Theory/Practical Topic
NOVEMBER	15th Week	23/11/23	→ Liquid: Diesel, petrol, & kerosene composition & uses.
		28/11/23	→ Gaseous: producer gas & watergas composition & uses
	16th Week	29/11/23	→ Elementary idea about LPG, CNG & coal gas (composition & uses only).
			Chapter-13 Polymer:
		30/11/23	→ Defination of monomer, polymer, Homopolymer, co-polymer &.
			→ Degree of polymerization
DECEMBER		04/12/23	→ Difference between thermo-setting & thermoplastic, composition Defination of Elastomer (Rubber)
	17th Week		
		06/12/23	→ composition & uses of polythene, poly-vinyl, chloride & Bakelite.

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Month	Week	Class Day	Theory/Practical Topic
D	17th week	06/12/23	-> Natural Rubber (its draw backs), vulcanisation of Rubber.
E			
C			-> Advantages of vulcanised rubber over raw rubber.
E		07/12/23	chapter-14
M			Chemical in Agriculture:
B			-> pesticides: Insecticides, herbicides, Fungicides example & uses.
F			
R	18th week	11/12/23	-> Bio fertilizers Defination with example.
			-> uses of Biofertilizers.

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