

LESSON PLAN

DISCIPLINE: MATH AND SCIENCE	SEMESTER: FIRST	NAME OF THE TEACHING FACULTIES: SATYAJIT DHAL GUNTUKU SUSMITA
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SUBJECT: ENGG. CHEMISTRY	NO. OF. DAYS PER WEEK CLASS ALLOTTED	SEMESTER: FROM 25/10/2021 TO 31/01/2022	
WEEK	CLASS DAY	THEORY	PRACTICAL
1st	1 ST	-Introduction, Matter and its states.	Introduction to chemistry lab, about safety measures, about maintenance of practical records.
	2 ND	-Atomic structure: fundamental particles (electron, proton and neutron), their properties.	Introduction to the students about use of different lab equipments and how to handle them safely.
	3 RD	-Atomic number and mass no. , definition, examples and properties of isotopes, isotones and isobars. -Definitions of atomic weight, mol. Weight, equivalent weight.	-----

	4 TH	-Rutherford's atomic model. -Equivalent weight of acid, bases and salts. -concept of arrhenius theory with examples.	-----
2 nd	1 ST	-Bohr's atomic model -Molarity and Normality with numericals. -Lowry Bronsted theory with examples.	Dictation of the procedure of exp. 1, preparation and study of properties of CO ₂ gas, explanation of theory with equations.
	2 ND	Bohr and Bury Scheme and AUFBAU'S Principle. -Molality with examples -LEWIS theory for Acid and Base with examples.	Checking of rough practical record and demonstratation of the experiment.
	3 RD	-Hund's rule with examples. -Importance of ph in industry. -Neutralization.	-----
	4 TH	-Electronic configuration. -Ph of solutions with numericals. -Definition and types of salts.	-----
3 rd	1 ST	-Numericals	Expt. Conducted by the students.

	2 ND	-Correction of class note -clearing of doubts.	Correction of practical records, discussion of viva questions of the expt.
	3 RD	-Numericals.	-----
	4 TH	-Chemical bonding, definition, cause of bonding -Normal and Acidic salts with examples.	-----
4 th	1 ST	-Ionic bond: definition, examples. -Basic and Double salts with examples.	Dictation of the procedure of exp. 2. Preparation and study of properties of ammonia gas. Explanation Of Theory With Equations.
	2 ND	-Covalent bond: definition with examples. -Complex and Mixed salts with examples.	Checking of rough practical record and demonstration of the experiment.
	3 RD	-Coordinate bond: definition with examples. -Numericals.	-----
	4 TH	-Electrochemistry: definition of electrolytes, their types, non electrolytes with examples. -Numericals.	-----
	1 ST	-Electrolysis(principle) -Numericals.	Expt. Conducted by the Students.
	2 ND	Electrolysis of molten NaCl and Aqueous NaCl. -Numericals.	Checking of practical records and discussion of viva questions of expt. 2.

5 th	3 RD	-Faraday's laws of electrolysis. -Numericals on faraday's laws.	-----
	4 TH	-Electroplating (zinc plating).	-----
6 th	1 ST	-Class note correction.	Dictation of the procedure of exp. 3. Crystalization of CuSO ₄ . Explanation Of Theory With Equations.
	2 ND	-Note checking and numericals.	Checking of rough practical record and demonstratation of the experiment.
	3 RD	-Corrosion and its types. -Water treatment: sources of water,hard and soft water.	-----
	4 TH	-Rusting of iron and water line corrosion. -Hardness, types of hardness.	-----
7 th	1 ST	-Protection from corrosion by alloying and galvanisation. -Removal of hardness by lime soda method.	Expt. Conducted by the Students.
	2 ND	-Hydrocarbons: definitions,general formula, examples. -Advantages of hot lime over cold lime process.	Checking of practical records and discussion of viva questions of expt. 3.
	3 RD	-Rules for iupac system of nomenclature for alkanes, alcohols, alkyl halides.	-----

		-Organic ion exchange method.	
	4 TH	-Rules for IUPAC system of nomenclature for alkenes and alkynes. -Lubricants: definition and types, uses.	-----
8 th	1 ST	-Rules for writing the structural formula from IUPAC names, bond line notation. -Purpose of lubrication.	Dictation of the procedure of exp. 4. Acid Base Titration. Explanation Of Theory With Equations.
	2 ND	-Revision.	Checking of rough practical record and demonstration of the experiment.
	3 RD	-Aromatic hydrocarbons and Huckel's rule. -Numericals.	-----
	4 TH	-Difference between aliphatic and aromatic hydrocarbons, uses of common aromatic compounds. -Fuel: definition, classification.	-----
9 th	1 ST	-Metallurgy: minerals, ores with examples. -Uses and composition of diesel, petrol and kerosene.	Expt. Conducted by the Students Acidimetry.
	2 ND	-Metallurgical operations. -Producer gas and water gas.	Expt. Conducted by the Students Alkalimetry.
	3 RD	-Gravity separation and	-----

		Magnetic separation of ore concentration. -LPG, CNG and Coal gas.	
	4 TH	-Froth floatation and Leaching methods of ore concentration. -Class note checking and discussion of questions .	-----
10 th	1 ST	-Revision.	Checking of practical records and discussion of viva questions of expt. 4.
	2 ND	-Numericals and class note correction.	Dictation of the procedure of exp. 5. Test of acid radicals.
	3 RD	-Polymers.	-----
	4 TH	-Definition of monomer, homo-polymer, co-polymer.	-----
11 th	1 ST	-Degree of polymerization.	Checking of rough practical record and demonstration of the experiment.
	2 ND	-Thermosetting, thermoplastic.	Expt. Conducted by the Students.
	3 RD	-Revision.	-----
	4 TH	-Composition and uses of polythene.	-----
12 th	1 ST	-Calcination and roasting. -composition and uses of poly vinyl chloride.	Checking of practical records and discussion of viva questions of expt. 5.
	2 ND	-Smelting, flux, slag with definitions and examples. -composition and uses of	

		Bakelite.	
	3 RD	-Refining of metal.	-----
	4 TH	-Alloys and types with examples. -Elastomers.	-----
13 th	1 ST	-Correction of assignments.	Dictation of the procedure of exp. 6. Test of basic radicals (known).
	2 ND	-Drawbacks of natural rubber.	Checking of rough practical record and demonstration of the experiment.
	3 RD	-Vulcanisation of rubber.	-----
	4 TH	-Advantages of vulcanised rubber over raw rubber.	-----
14 th	1 ST	-Uses and examples of insecticides.	Expt. Conducted by the Students.
	2 ND	-Revision.	Test of unknown acid and basic radicals.
	3 RD	-Examples and uses of herbicides and fungicides.	-----
	4 TH	-Revision.	-----
15 th	1 ST	-Note correction.	Test of unknown salt.
	2 ND	-Bio fertilizers.	Checking of practical records and viva voice.
	3 RD	-Numericals and revision.	-----
	4 TH	-Discussion of possible questions for semester exam.	-----

