

Lecture No.	Unit	Topic	Schedule date	Remarks
1	Unit 1	Electron, proton ,neutron, atomic number, mass number, charge		
2		Isotopes and Isobars with example		
3		Bohr's theory, orbits and orbitals		
4		Hunds rule and filling up orbitals according to Hund's rule		
5		Aufbau's principle, filling up electron according to this principle till atomic number 30		
6		Pauli exclusion principle and quantum numbers		
7		Valency- electro-valency and covalency, Octet rule and duplet rule		
8			QUIZ-1	
9	UNIT-2	Electrochemistry Introduction, Ionization and electrolytic dissociation, Arrhenius theory of ionization		
10		Terms involved in electrolysis		
11		Ohm's law, specific conductivity Equivalent conductivity, specific resistance		
12		Electrolytic cell, primary and secondary reaction at cathode and anode during electrolysis		
13		Electrolysis of CuSO <sub>4</sub> solution by using Cu electrode and Pt-electrode, electrolysis of NaOH Solution and Fused NaCl		
14		Faraday's first and second law		
15		Faraday's first and second law numerical		
16		Electrochemical cells and batteries		
17		Dry cell		
18		Lead-storage cell		
19		Application of electrolysis Electroplating, electro refining ,Electrometallurgy, Electrotyping		
20			QUIZ-2	
21	UNIT-3	Occurrence of metals, metallurgy definition ,ores, minerals ,gangue, flux, slag, and mechanical property of metals		
22		Stages of extraction of metals		
23		Extraction of Fe(Iron),reaction in blast furnace		
24		Extraction of Cr, Ni, Sn		
25		Extraction of Cu, Al, Pb		
26		Extraction of Zn, Co, Ag, W		
27		Alloys –definition, purpose of making alloys ,Ferrous and Non ferrous alloys		
28		Composition and application of some ferrous alloys and non ferrous alloys		
29		QUIZ-3		
30	UNIT-4	Non-metallic materials plastics-addition and condensation polymerization( polyethylene and Bakelite)		
31		Thermo softening and thermosetting plastics definition and distinction, compounding of plastics		
32		Rubber-natural rubber, its processing, drawback, vulcanization of rubber, synthetic rubber		
33		Distinction between natural and synthetic rubbers, Thermal insulating materials		
34			QUIZ	
35	UNIT-5	Pollution, Cause of pollution, Air pollution ,type of air pollutant and their source,		
36		Control of air pollution		
37		Ozone layer depletion and green house effect		
38		Water pollution, cause and method of prevention, type of waste domestic waste and industrial waste, biomedical waste		
39		Biological oxygen demand, chemical oxygen demand,		
40			QUIZ	