

"PVC"NSSK Govt. Polytechnic Bilaspur at Kalol

Lesson Planning(Theory)

Branch : Electrical and Mechanical Engg.

Semester: 1st

Subject Applied Chemistry-I

Session: Oct 2021 to Jan 2022

Teacher Mrs. Nidhi Katoch

Laboratory: Chemistry Lab

Sr.No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1	8	Basic Concepts of Chemistry	Physical & chemical classification of matter, Symbol, valency & writing of chemical formula of compounds. Calculations of %age of elements of compounds, Chemical equation, Thermo-chemical equation, balancing of chemical equation	Mtg Foundation Basic Concepts, Self Notes	
2	7	Atomic Structure	Fundamental particles of atom, Bohr's model of atom, Successes and limitations of atomic theory. Atomic no, mass no, isotopes and isobars, definition of orbit and orbital, shapes of S&P orbitals, Aufbau principle, Pauli's exclusion & Hund's rule of multiplicity, electronic configuration	New Course Chemistry, Self Notes	
3	5	Periodic table	Modern periodic table & law, groups, periods & classification of elements into s, p, d & f blocks	New Course Chemistry, Self Notes	
4	5	Chemical Bonding	Chemical bonding, types of bonding with examples, metallic bonding with electron sea model	New Course Chemistry, Self Notes	
5	5	Solutions <i>Nidhi</i>	Solution, solute, solvent, types with examples, molarity, molality, normality & numericals based on M, m, N. Definition of pH, pH of solutions, numericals of pH value, industrial applications of pH, buffer solution, types & industrial applications.	New Course Chemistry, Self Notes	

Sr.No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
6	9	Water	Water resources by pie chart, Classification of water, action of soap on water, units & numerical. Disadvantages of hard water in domestic & boiler water, removal of hardness by Permutit & ion-exchange process. Physio-Chemical methods for testing water quality i.e. pH meter, TDS, EDTA, water sterilization by UV & RO method.	Engineering Chemistry Katsons Publication	
7	8	Electrochemistry	Oxidation, reduction & redox reactions, electrolytes, non-electrolytes, conductors, insulators, semi-conductors with examples. Faraday's laws of electrolysis & numerical, Industrial applications of electrolysis, dry cell. Lead storage battery, mercury cell, nickel-cadmium & lithium battery,	New Course Chemistry, Self Notes	
8	4	Organic Chemistry	Tetra valency of carbon, catenation functional groups, Nomenclature of simple organic compounds by their I.U.P.A.C & common names.	New Course Chemistry, Self Notes	



Signature of Teacher

HOD(Applied Sciences & Humanities)