K.T.S.P. Mandal's

Sahebraoji Butte Patil Mahavidyalaya, Rajgurunagar.

Teaching Plan - 2019-20 Class: S. Y. B. Sc. Sem.-I

Name of Paper- Organic and Inorganic chemistry (Paper II)

No. of Lectures allotted per week-04

Name of teacher- Prof.Kolhe M.P.

Month	Chapter	Topic	L
July 2019	Stereoisom -erism	Introduction to optical isomerism: Chirality, optical activity and polarimetry, enantiomers, absolute configuration, R/S system nomenclature with wedge and Fischer representation of two chiral centres, erythro, threo, meso-diastereomers with R/S configuration. Stereoisomerism Baeye'rs strain theory, heat of combustion, cycloalkanes, factors affecting the stability of conformation, Conformation of cyclohexane - equatorial and axial bonds, Monosubstituted cyclohexane stability with $-CH_3$ and - $C(CH_3)_3$ substitutes. Structures of geometrical isomers of dimetylcyclohexane only **Assignment- 1**	12
Aug 2019	Organic reaction Mechanism	Introduction, types of reagents–electrophile, nucle ophile and free radical. Types of organic reactions: Addition, Elimination (elimination and Hofmann elimination), substitution (aliphatic electrophilic and nucleophilic, aromatic electrophilic) and rearrangement.Mechanism: (i) Aldol condensation (ii) Markovnikov and anti-Markovnikov addition reaction (iii) Saytzeff and Hoffmann elimination (iv) SN and SN reactions (v) Hofmann rearrangement **Assignment- 2**	12
Aug 2019	General Principles of Metallurgy	Introduction, occurrence of metals, ores and minerals, types of ores, operations involved in metallurgy, crushing, connotation, various methods of concentration such as hand picking, gravity separation, magnetic separation. Froth flotation, Calcinations, Roasting etc. Reduction, various methods of reduction such as smelting, Aluminothermic process and	06

		electrolytic reduction, Refining of metals, various methods of refining such as poling, liquation, electrolytic and vapour phase refining (Van Arkel Process). Aims: To study principles and process of metallurgy **Assignment- 3**	
Sept 2019	**Metallurgy of Aluminium (Electrometallurgy):**	Occurrence, Physiochemical principles, Extraction of Aluminium, Purification of bauxite by Baeyer's process, Electrolysis of alumina, application of aluminum and its alloys.Aims: To study metallurgy of Aluminium.Objectives: A student should be able -To know physico-chemical principles involved in electrometallurgy.To understand electrolysis of alumina and its refining. To explain the uses of Aluminum and its alloys. **Internal Examination -1**	**04**
Sept 2019	**Metallurgy of Iron and Steel (Pyrometallurgy)**	Occurrence, concentration, calcination, smelting physio-chemical principles, reactions in the blast furnace, wrought iron, manufacture of steel by Bessemer and L.D. process, its composition and applications.	**08**
Oct. 2019	**Corrosion and Passivity**	Definition of corrosion, Types of corrosion, Atmospheric, Immersed, Mechanism of electrochemical corrosion, Factors affecting corrosion -position of metal in E. C. S., purity effect of moisture, effect of oxygen, pH, physical state of metal, methods of protection of metal from corrosion- alloy formation, **Passivity :** Definition, Theories of passivity - (i) Oxide film theory (ii) Gaseous film theory (iii) Physical film theory, Valence theory, Catalytic theory, Allotropic theory, Electrochemical passivity. **Assignment- 4**	**06**
Oct 19		**Question paper solving** **Question paper checking**	**02**

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