1.1.1 Curriculum developed in relevance to local, regional needs in the subject chemistry

Item required	Modules relevant to local needs	Modules relevant to regional needs
Course – I **INORGANIC & ORGANIC CHEMISTRY**	ELEMENTS OF BORON GROUP ELEMENT OF CARBON GROUP ELEMENT OF NITROGEN GROUP ELEMENTS OF OXYGEN GROUP ELEMENTS OF HALOGEN GROUP, INTER HALOGEN AND PSEUDO HALOGEN ORGANOMETALLIC CHEMISTRY STRUCTURAL THEORY IN ORGANIC CHEMISTRY APPLICATIONS OF INDUCTIVE EFFECT ACYCLIC HYDROCARBONS - ALKENES ACYCLIC HYDROCARBONS - ALKYNES ALYCYCLIC HYDRO CARBONS BENZENE AND REACTIVITY	Synthesis of boron hydridesBorohydrides Physical and chemical propertiessilicates Silanes and silicones Physical state & physical properties Hydribes of Nitrogen - Hydrazine General trends in physical properties Physical and chemical properties Preparation and uses of organo lithium compounds Grignard (organo magnesium)compounds Fission of covalent bond Homolytic fission Heterolytic fission Acidity of acids Methods of preparation of alkenesMethods of preparation Physical properties Chemical properties Preparation Chemical properties Methods of preparation of benzene Methods of preparation of alkyl benzene

1.1.1 Curriculum developed in relevance to local, regional needs in the subject chemistry

Course – II title Physical&General chemistry	**SOLUTIONS** **SURFACE CHEMISTRY**	Fractional distillation Immiscible liquids and steam distillationadsorption
Course – III title **Inorganic & Organicchemistry**	**Carboxylic acids**	Preparation and properties of Carboxylic acids Preparation and applications of Acetoacetic ester Preparation and applications of Malonic ester
Course – IV title **PAPER-IV:SPECTROSCOPY & PHYSICAL CHEMISTRY**	**UNIT-III** **DILUTE SOLUTIONS** **UNIT-IV** **ELECTROCHEMISTRY-I&II** **1.**Conductivetie measurement and Conductometric titrations. **UNIT-V** **PHASE RULE** 1.Phase equilibrium of one component water system	UNIT-I. SPECTROPHOTOMETRY& Electronic spectroscopy 1.Measurement of absorption 2.Quantitative analysis using Beer Lamberts law UNIT-II INFRA-RED SPECTROSCOPY& NMR Spectroscopy 1.Interpretation of spectra-alcohols,carbonyl compounds,amines,alkenes. 2.Applications of NMR spectroscopy- Ethyl bromide,ethanol,acetaldehyde andacetophenone UNIT-V PHA

1.1.1 Curriculum developed in relevance to local, regional needs in the subject chemistry

		S E R U L E 1.Phase equilibrium of two componentsystem Pb-Ag system.
Course – V title **PAPER-V:INORGANIC, ORGANIC & PHYSICAL CHEMISTRY**	**UNIT-I COORDINATION CHEMISTRY**	**UNIT-I** **COORDINATION CHEMISTRY** **UNIT-II**

1.1.1 Curriculum developed in relevance to local, regional needs in the subject chemistry

	UNIT-II SPECTURAL AND MAGNETIC PROPERTIES OF METAL COMPLEXCES UNIT – III ORGANIC CHEMISTRY – CARBOHYDRATES UNIT-IV AMINO ACIDS AND PROTEINS UNIT – V PHYSICAL CHEMISTRY – THERMODYNAMICS Joul-thomson effect, coefficient,	SPECTURAL AND MAGNETIC PROPERTIES OF METAL COMPLEXCES Thermodynamic stability and kinetic stability – factors – chelate effect – composition of complex by job's methodand mole ratio method UNIT – III ORGANIC CHEMISTRY – CARBOHYDRATES Evidence cyclic structure of glucose – proof for the ring size – osazone formation form glucose and fructose – conversions – arabinose to D-glucose, aldohexose to aldopentose by ruff's degradation UNIT-IV AMINO ACIDS AND PROTEINS Zwitter ion structure – isoelectric point, peptied bond structure and nomenclaturepepited and proteins. UNIT – V PHYSICAL CHEMISTRY – THERMODYNAMICS
Course –V I title PAPER-VI:INORGANIC, ORGANIC & PHYSICAL CHEMISTRY	**UNIT-III Heterocyclic compounds** UNIT-IV Bio-Inorganic chemistry **1.**Bio-logical significance of Na,K,Mg,Fe,Zn,Co etc… 2.Functions of Hemoglobin and Chlorophyll. Additional curriculum Drug chemistry Generic names and trade names of aspirin,Paracetamol. HIV,Aids.	**UNIT-I Nitro hydrocarbons** 1.Preparation of nitro alkanes 2.Reactivity of nitro alkanes UNIT-II Nitro compounds 1. Preparative methods of amines. 2.chemical properties of amines UNIT-III Heterocyclic compounds **1.**Preparation of pyrrole,furan,thiophene UNIT-V:Photo chemistry **1.**Fluorescence and phosphorescence

1.1.1 Curriculum developed in relevance to local, regional needs in the subject chemistry

PAPER-VII-B ENVIRONMENTALCHEMISTRY	Unit-1 SCOPE AND IMPORTANCE OF ENVIRONMENT Forest Resources Water Resources Mineral Resources Land Resources Unit-3 WATER POLLUTION Softening of Water Having Permanent Hardness Unit-4 CHEMICAL TOXICOLOGY Effects of Toxic Chemicals	Unit-1 SCOPE AND IMPORTANCE OF ENVIRONMENT Solar energy,Bio-Mass energy,Geothermal energy,Ocean thermal energy,thermal energy,atomic energy Unit-2 AIR POLLUTION Controlling methods of Air Pollution Unit-3 WATER POLLUTION Treatment of Wastage-Introduction Unit-5 ECOSYSTEM, SOLID WASTE MANAGEMENT AND DISASTER MANAGEMENT Food chains,Food webs Solid waste management methods
CLP-VIII-B2 INOGANIC MATERIALS OF INDUSTRIAL IMPORTANCE	UNIT-I RECAPTITULATION OF s AND p BLOCK ELEMENTS Allotropy, allotropes of C, S & P Oxidation states, anomalous behaviour of first member of each group UNIT-II SILICATE INDUSTRIES GLASS – composition and properties of glasses, sodalime glass, lead glass, safety glass, n Borosilicate glass, coloured glass. CEMENT- cement setting process, definition UNIT-III	UNIT-I RECAPTITULATION OF s AND p BLOCK ELEMENTS Periodicity s and p block element, electronic configuration, atomic and ionic size, factors effecting ionization enthalpy, electronegative, Alfred-rochow scales, inert pair effect UNIT-II SILICATE INDUSTRIES GLASS - Glassy state and its properties, classification, manufacture. CEMENT- ingradients and their role, manufacture UNIT-III FERTILIZERS Compound and mixed fertilizers, potassium chloride, potassium sulphate

1.1.1 Curriculum developed in relevance to local, regional needs in the subject chemistry

	FERTILIZERS Urea, ammonium nitrate, superphosphate of lime, preparation and properties. **UNIT-IV** **POLYMERS**	Uses in industrial purpose. **UNIT-IV** **POLYMERS**

	UNIT-V ALLOYS Composition and significance of different types of steels, heat resisting steel, stainless steel, spring steel, tools steel **<u>CHEMICAL EXPLOSIVES</u>** Characteristics of explosives, introduction to rocket propellents	Classification, number average, weight average, determine molecular weight ofpolymers by osmometry. UNIT-V ALLOYS Definition, classification, manufacture ofsteel **<u>CHEMICAL EXPLOSIVES –</u>** preparations and significance of lead azide, PETN, RDX