CHEMISTRY
II PUC

Unit 1 The Solid State

RETAINED PORTION	DELETED PORTION
1.1 General Characteristics of Solid State 1.2 Amorphous and Crystalline Solids 1.3 Classification of Crystalline Solids 1.4 Crystal Lattices and Unit Cells 1.5 Number of Atoms in a Unit Cell 1.6 Close Packed Structures 1.7 Packing Efficiency 1.8 Calculations Involving Unit Cell Dimensions 1.9 Imperfections in Solids	1.10 Electrical properties 1.11 Magnetic properties

Unit 2 Solutions

RETAINED PORTION	DELETED PORTION
2.1 Types of Solutions 2.2 Expressing Concentration of Solutions 2.3 Solubility 2.4 Vapour Pressure of Liquid Solutions 2.5 Ideal and Non-ideal Solutions 2.6 Colligative Properties and Determination of Molar Mass	2.7 Abnormal Molar masses

Unit 3 Electrochemistry

RETAINED PORTION	DELETED PORTION
3.1 Electrochemical Cells 3.3 Nernst Equation 3.4 Conductance of Electrolytic Solutions 3.5 Electrolytic cells and Electrolysis (excluding elementary idea of laws of electrolysis)	3.2 Galvanic Cells 3.6 Batteries; 3.7 Fuel Cells 3.8 Corrosion

Unit 4 Chemical Kinetics

RETAINED PORTION	DELETED PORTION
4.1 Rate of a Chemical Reaction 4.2 Factors Influencing Rate of a Reaction 4.3 Integrated Rate Equations	4.4 Temperature Dependence of the Rate of a Reaction 4.5 Collision theory of chemical reactions.

Unit 5 Surface Chemistry

RETAINED PORTION	DELETED PORTION
5.1 Adsorption 5.3 Colloids 5.4 Classification of Colloids 5.6 Colloids Around Us	5.2 Catalysis 5.5 Emulsions

Unit 6 General Principles and Processes of Isolation of Elements

RETAINED PORTION	DELETED PORTION
Nil	Entire unit

Unit 7 The *p*-Block Elements

RETAINED PORTION	DELETED PORTION
7.1 Group 15 Elements 7.2 Dinitrogen 7.3 Ammonia 7.4 Oxides of Nitrogen (excluding structure) 7.5 Nitric Acid 7.10 Group 16 Elements 7.11 Dioxygen 7.12 Simple Oxides 7.13 Ozone 7.14 Sulphur – Allotropic Forms 7.15 Sulphur Dioxide 7.16 Oxoacids of Sulphur 7.17 Sulphuric Acid: chemical Properties, uses 7.18 Group 17 Elements 7.19 Chlorine 7.20 Hydrogen Chloride 7.21 Oxoacids of Halogens 7.22 Interhalogen Compounds 7.23 Group 18 Elements	7.4 Oxides of Nitrogen (structures) 7.6 Phosphorus - allotropic forms, 7.7 Phosphine; Preparation and properties 7.8 Phosphorous halides 7.9 Oxoacids of Phosphorus. 7.17 Sulphuric Acid: Industrial process of manufacture.

Unit 8 The *d*- and *f*-Block Elements

RETAINED PORTION	DELETED PORTION
8.1 Position in the Periodic Table 8.2 Electronic Configurations of the *d*-Block Elements 8.3 General Properties of the Transition Elements (*d*-Block) 8.5 The Lanthanoids: Electronicconfiguration, oxidation states, lanthanoids contraction, reasons and consequences. 8.6 The Actinoids; Actinoid contraction 8.7 Some Applications of *d*- and *f*-Block Elements	8.4 Some important compounds of Transition elements 8.5 The Lanthanoids: Chemical reactivity of lanthanoids. 8.6 Actinoids –Electronic configuration, oxidation states and comparison with lanthanoids.

Unit 9 Coordination Compounds

RETAINED PORTION	DELETED PORTION
9.1 Werner's Theory of Coordination Compounds 9.2 Definitions of Some Important Terms Pertaining to Coordination Compounds 9.3 Nomenclature of Coordination Compounds 9.5 Bonding in Coordination Compounds 9.6 Bonding in Metal Carbonyls 9.7 Stability of coordination compounds	**9.4 Isomerism in coordination compounds.** **9.8 Importance and Applications of coordination compounds.**

Unit 10 Haloalkanes and Haloarenes

RETAINED PORTION	DELETED PORTION
10.1 Classification 10.2 Nomenclature 10.3 Nature of C–X Bond 10.4 Methods of Preparation 10.5 Physical Properties 10.6 Chemical Reactions	**10.7 Polyhalogen Compounds**

Unit 11 Alcohols, Phenols and Ethers

RETAINED PORTION	DELETED PORTION
11.1 Classification 11.2 Nomenclature 11.3 Structures of Functional Groups 11.4 Alcohols and Phenols 11.6 Ethers	**11.5 Some Commercially important Alcohols.**

Unit 12 Aldehydes, Ketones and Carboxylic Acid

RETAINED PORTION	DELETED PORTION
12.1 Nomenclature and Structure of Carbonyl Group 12.2 Preparation of Aldehydes and Ketones 12.3 Physical Properties 12.4 Chemical Reactions 12.5 Uses of Aldehydes and Ketones 12.6 Nomenclature and Structure of Carboxyl Group 12.7 Methods of Preparation of Carboxylic Acids 12.8 Physical Properties 12.9 Chemical Reactions 12.10 Uses of Carboxylic Acids	**Nil**

Unit 13 Amines

RETAINED PORTION	DELETED PORTION
13.1 Structure of Amines	**13.7 Method of preparation of Diazonium**

13.2 Classification 13.3 Nomenclature 13.4 Preparation of Amines 13.5 Physical Properties 13.6 Chemical Reactions	salts. 13.8 Physical Properties 13.9 Chemical Reactions 13.10 Importance of Diazonium salts in synthesis of Aromatic Compounds.

Unit 14 Biomolecules

RETAINED PORTION	DELETED PORTION
14.1 Carbohydrates 14.1.1 Classification of Carbohydrates 14.1.2 Monosaccharides 14.1.3 Preparation of Glucose 14.1.4 Structure of Glucose 14.1.5 Cyclic Structure of Glucose 14.1.6 Structure of Fructose 14.2 Proteins 14.5 Nucleic Acids	14.1.7 Disaccharides 14.1.8 Polysaccharides 14.1.9 Importance of carbohydrates. 14.3 Enzymes 14.4 Vitamins and Hormones

Unit 15 Polymers

RETAINED PORTION	DELETED PORTION
Nil	Entire unit is deleted.

Unit 16 Chemistry in Everyday life

RETAINED PORTION	DELETED PORTION
Nil	Entire unit is deleted.

Practical

The following portion to be retained

1) CHROMATOGRAPHY;
   a) Separation of pigments present in the leaves (spinach) and flowers (Rose, marigold) by paper chromatography and determination of R_f value of components.
   b) Separation of the constituents of a mixture of inorganic compounds containing two cations, Pb^{2+} and Cd^{2+} using chromatographic techniques.
2) TITRIMETRIC ANALYSIS ;
   a) To determine the concentration / molarity of KMnO4 solution by titrating it against a 0.1 M standard solution of oxalic acid.
   b) To determine the concentration / molarity of KMnO4 solution by titrating it against standard solution of FAS.
3) SYSTEMATIC QUALITATIVE ANALYSIS ;

To detect one cation and one anion in the given salt

4) TESTS FOR FUNCTIONAL GROUPS IN ORGANIC COMPOUNDS ;

- Test for unsaturation
- Test for alcoholic group
- Test for phenolic group
- Test for aldehydes and ketones
- Test for carboxylic acid
- Test for amino group

5) PREPARATION OF INORGANIC–COMPOUNDS ;
   a) To prepare double salts; FAS and potash alum.
   b) To prepare potassium trioxalatoferrate (III)
6) TEST FOR CARBOHYDRATES, FATS AND PROTEINS ;
   a) Test for carbohydrates
   b) Test for oils and fats
   c) Test for proteins
7) Reaction between KIO_3 and Na_2SO_3 using starch solution as indicator. (Clock reaction)
8) Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH)
9) Determination of enthalpy change during interaction between acetone and Chloroform.
10) Preparation of Acetanilide.
11) Preparation of Di-benzal acetone.

Following portions should be considered deleted.

A. Surface Chemistry
a. Preparation of one lyophilic and one lyophobic sol Lyophilic sol - starch, egg albumin and gum Lyophobic sol - aluminium hydroxide, ferric hydroxide, arsenous sulphide.
b. Dialysis of sol-prepared in (a)above.
c. Study of the role of emulsifying agents in stabilizing the emulsion of different oils.

B. Chemical Kinetics
a. Effect of concentration and temperature on the rate of reaction between Sodium Thiosulphate and Hydrochloric acid.
b. Study of reaction rates:
i) Reaction of Iodide ion with Hydrogen Peroxide at room temperature using different concentration of Iodideions.

C. Thermo chemistry Any one of the following experiments
i) Enthalpy of dissolution of Copper Sulphate or Potassium Nitrate.

D. Electrochemistry Variation of cell potential in Zn/Zn 2+|| Cu2+/Cu with change in concentration of electrolytes (CuSO4 or ZnSO4) at room temperature.

G. Preparation of Organic Compounds:
i) P-nitro acetanilide, Aniline yellow or 2-naphthol aniline dye.

12.6 Nomenclature and Structure of Carboxyl Group 12.7 Methods of Preparation of Carboxylic Acids 12.8 Physical Properties 12.9 Chemical Reactions 12.10 Uses of Carboxylic Acids	

Unit 13 Amines

RETAINED PORTION	DELETED PORTION
13.1 Structure of Amines 13.2 Classification 13.3 Nomenclature 13.4 Preparation of Amines 13.5 Physical Properties 13.6 Chemical Reactions	13.7 Method of preparation of Diazonium salts. 13.8 Physical Properties 13.9 Chemical Reactions 13.10 Importance of Diazonium salts in synthesis of Aromatic Compounds.

Unit 14 Biomolecules

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14.1 Carbohydrates 14.1.1 Classification of Carbohydrates 14.1.2 Monosaccharides 14.1.3 Preparation of Glucose 14.1.4 Structure of Glucose 14.1.5 Cyclic Structure of Glucose 14.1.6 Structure of Fructose 14.2 Proteins 14.5 Nucleic Acids	14.1.7 Disaccharides 14.1.8 Polysaccharides 14.1.9 Importance of carbohydrates. 14.3 Enzymes 14.4 Vitamins and Hormones

Unit 15 Polymers

RETAINED PORTION	DELETED PORTION
Nil	Entire unit is deleted.

Unit 16 Chemistry in Everyday life

RETAINED PORTION	DELETED PORTION
Nil	Entire unit is deleted.