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प्राचार्य

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Course Outcomes Department of Chemistry

B.Sc. I Year (Semester-I)

Inorganic Chemistry (CHE-111)

- **CO1:** Understand atomic structure and Periodic properties.
- **CO2:** Understand Chemical bonding and Molecular structure.
- **CO3:** Knowledge about VBT (Valence Bond Theory) and VSEPR (Valence Shell Electron Pair Repulsion) theory.
- **CO4:** Knowledge about MOT (Molecular Orbital Theory) theory.

Heat and Thermodynamics (CHE-112)

- **CO1:** Understand the mechanism of organic reactions.
- **CO2:** Knowledge about Stereochemistry.
- **CO3:** Information about benzene and its types.
- **CO4:** Understand chemical reactions of alkyl and aryl halides.
- **CO5:** General study of Alcohols and Phenols.

B.Sc. I Year (Semester-II)

Physical Chemistry (CHE-211)

- **CO1:** Understand basic concepts of thermodynamics and thermochemistry.
- **CO2:** Knowledge of chemical equilibrium.
- **CO3:** Knowledge of gaseous state.
- **CO4:** Knowledge about Chemical kinetics.

Applied Chemistry (CHE-212)

- **CO1:** Understand basic concepts of chromatography.
- **CO2:** Knowledge about drugs.
- **CO3:** Understand the study of glass.
- **CO4:** Knowledge about principles and applications of Ultraviolet spectroscopy.
- **CO5:** Understand analysis of fertilizers.

B.Sc. II Year (Semester-III)

Organic Chemistry (CHE-311)

- **CO1:** Understand classification, nomenclature, preparation, and reactions of aldehydes and ketones.
- **CO2:** Understand preparation methods, physical, and chemical properties of carboxylic acids.
- **CO3:** Understand classification, nomenclature, preparation, and reactions of Amines and Diazonium salts.
- **CO4:** Understand classification, nomenclature, preparation, and reactions of Heteronuclear aromatic compounds.
- **CO5:** Understand the stereochemistry of cyclohexane.
- **CO6:** Knowledge about active methylene compounds.

Physical Chemistry (CHE-312)

- **CO1:** Understand details about surface chemistry.
- **CO2:** Understand the knowledge about phase equilibrium.
- **CO3:** Understand details of quantum chemistry.
- **CO4:** Understand details about photochemistry.
- **CO5:** Understand basics of conductometry.
- **CO6:** Understand basics of colorimetry.

B.Sc. II Year (Semester-IV)

Inorganic Chemistry (CHE-411)

- **CO1:** Understand Nomenclature, preparation, and isomerism of Co-ordination compounds.
- **CO2:** Understand Valence bond theory of Co-ordination compounds.
- **CO3:** Understand details of Crystal field theory.
- **CO4:** Understand details of Oxidation and Reduction.
- **CO5:** Knowledge about volumetric analysis.

Applied Chemistry (CHE-412)

- **CO1:** Understanding of Infrared Spectroscopy in detail.
- **CO2:** Understanding of Raman Spectroscopy in detail.
- **CO3:** Knowledge about dyes and pigments.
- **CO4:** Knowledge about polymerization.
- **CO5:** Knowledge about cosmetics.

B.Sc. III Year (Semester-V)

Physical Chemistry (CHE -XIII)

- **CO1:** Understand elementary quantum mechanics.
- **CO2:** Knowledge about electromagnetic radiation of spectrum.
- **CO3:** Understanding of the difference between thermal and photochemical processes.
- **CO4:** Knowledge of saponification value, iodine value.

Organic Chemistry (CHE-XIV)

- **CO1:** Understand NMR (Nuclear Magnetic Resonance) spectroscopy.
- **CO2:** Knowledge of synthetic application of Grignard's reagent.
- **CO3:** Understanding of enolate ion, enolization, tautomerism.
- **CO4:** Overview of fiber cables and different fiber fabrication techniques.

B.Sc. III Year (Semester-VI)

Physical Chemistry (CHE -XVI)

- **CO1:** Knowledge of synthesis of different heterocyclic compounds.
- **CO2:** Understand interconversion of glucose.
- **CO3:** Describe Preparation and synthetic application of polymers.
- **CO4:** Understand Synthesis of different dyes.

Organic Chemistry (CHE -XVII)

- **CO1:** Understand NMR (Nuclear Magnetic Resonance) spectroscopy.
- **CO2:** Knowledge of synthetic application of Grignard's reagent.
- **CO3:** Understanding of enolate ion, enolization, tautomerism.
- **CO4:** Overview of fiber cables and different fiber fabrication techniques.