**GOVERNMENT DEGREE COLLEGE, PENDLIMARRI, YSR KADAPA DIST**

**DEPARTMENT OF CHEMISTRY**

**COURSE OUTCOMES**

**Semester-I**

1. Understand the basic concepts of p-block elements.

2. Explain the difference between solid, liquid and gases in terms of inter molecular interactions.

3. Apply the concepts of gas equations.

**Semester-II**

1. Understand and explain the differential behavior of organic compound based on fundamental concepts learnt.

2. Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved.

3. Learn and identify many organic reaction mechanisms including free radical substitution, electrophilic addition and electrophilic aromatic substitution.

4. Correlate and describe the stereo chemical properties of organic compounds and reactions.

**Semester-III**

1. Understand preparation, properties and reactions of halo alkanes, halo arenes and oxygen containing functional groups.

2. To propose possible mechanisms for any relevant reaction.

3. Variuous types of spectra and their use in structure determination.

**Semester-IV**

1. To learn about the laws of absorption of light energy by molecules and the subsequent photo chemical reactions.

2. To understand the concept of quantum efficiency and mechanism of photochemical reactions.

3. To understand the concept of Valence Bond theory.

4. To understand basic concepts of fuel cells

**Semester-V & VI**

1. Understand the environment functions and how it is affected by human activities.

2. Acquire chemical knowledge to ensure sustainable use of the worlds resources and ecosystems services.

3. Explain the energy crisis and different aspects of sustainability.

4. Understand the importance of green chemistry and green synthesis.

5. Demonstrate skills using the alternative green solvents in synthesis.

6. Demonstrate and explain enzymatic catalysis.

7. Analyse alternative sources of energy and carry out green synthesis.

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**DEPARTMENT OF CHEMISTRY**

**PROGRAMME OUTCOMES**

• Provide a broad foundation in chemistry that stresses scientific reasoning and Analytical problem solving with a molecular perspective

• Understand the importance of the Periodic Table of the Elements, how it came to be, and its role in organizing chemical information.

• Understand the interdisciplinary nature of chemistry and to integrate knowledge of mathematics, physics,biology and other disciplines to a wide variety of chemical problems.

• Learn the laboratory skills needed to design, safely and interpret chemical research.

• Acquire a foundation of chemistry of sufficient breadth and the depth to enable them to understand and critically interpret the primary chemical literature.

• Develop the ability to communicate scientific information and research results in written and oral formats.

• Learn professionalism, including the ability to work in teams and apply basic ethical principles.

**PROGRAM SPECIFIC OUTCOMES**

• To encourage students to fix their feet and bright their carrier in the fields of science and technology for sustainable future and solve the emerging opportunities and challenges.

• To encourage our budding scientist in the field of chemical research for human well beings.

• To encourage and motivate the students to understand the chemistry in our daily life.

• To inspire students to follow the principles of green chemistry which provides guideline for the exploration of nature without disturbing equilibrium of the nature.

• We help the students to understand theoretical chemistry by its practical applications in which traditional and modern apparatus are used.

• To create awareness and understanding of various critical perspectives and environmental challenges.

• To encourage students to adopt comparative understanding with mathematical, biological and social sciences.

• To understand the diversity of the subject in the different fields.

• To encourage the student towards creativity and generates scientific attitude.

**ATTAINMENT OF COURSE OUTCOMES**

Attainment Level 1: 60% of students scoring more than 40% of maximum marks.

Attainment Level 2: 70% of students scoring more than 60% of maximum marks.

Attainment Level 3: 80% of students scoring more than 75% of maximum marks.