



**SIR C R REDDY COLLEGE FOR WOMEN** (Estd : 1987)

Affiliated to ADIKAVI NANNAYA UNIVERSITY, Rajamahendravaram

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**COURSE OUTCOMES**

**DEPARTMENT OF CHEMISTRY**

**SIR C R REDDY COLLEGE FOR WOMEN, VATLURU ELURU**  
**CBCS/ SEMESTER SYSTEM (W.E.F 2020-2021 ADMITTED BATCH)**

**COURSE OUTCOMES FOR FIRST SEMESTER**

<b>B.Sc.</b>	<b>Semester - I</b>	<b>Credits: 4</b>
<b>Course: 1</b>	<b>Inorganic and Physical Chemistry</b>	<b>Hrs/Wk: 4</b>

**Course outcomes:**

At the end of the course, the student will be able to;

- Understand the basic concepts of p-block elements
- The students could able to know the electronic configurations of d – block elements.
- To acquire the knowledge of periodic properties and f – block elements.
- Explain the difference between solid, liquid and gases in terms of inter molecular interactions.
- Apply the concepts of gas equations, pH and electrolytes while studying other chemistry courses.

**Objectives:**

- The students will be able to understand general trends in the chemistry behind p-block elements
- In order to study transition metals to understand the trends in properties and reactivity of the d – block elements.
- To acquire the knowledge of periodic properties and f – block elements.
- Students will understand that matter has different phases; solid, liquid and gas.

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**Course Outcomes FOR II SEMESTER**

**SEMESTER:II**

**Course-2: Organic & General Chemistry**

<b>B.Sc.</b>	<b>Semester – II</b>	<b>Credits: 4</b>
<b>Course: 2</b>	<b>Organic &amp; General Chemistry</b>	<b>Hrs/Wk: 4</b>

**Course outcomes:**

At the end of the course, the student will be able to;

- Acquire knowledge on preparative methods and properties of alkanes and cyclo hexane conformations with energy diagram.
- Acquire knowledge on preparative methods and properties of alkenes and alkynes
- Learn and identify many organic reaction mechanism including Free Radical Substitution, Electrophonic Addition and Electrophonic Aromatic Substitution.
- Understand adsorption, types of adsorption, adsorption isotherm and its applications.
- Understand VBT, Hybridisation and MOT with its application.
- Gain knowledge on HSAB principle and its importance.
- Correlate and describe the stereochemical properties of organic compounds and reactions.

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**Course Outcomes For III SEMESTER**

<b>B.Sc.</b>	<b>Semester - III</b>	<b>Credits: 4</b>
<b>Course: 3</b>	<b>Organic chemistry &amp; Spectroscopy</b>	<b>Hrs/Wk: 4</b>

**Aim & objectives of the course**

1. To acquire knowledge on halogenated hydrocarbons and hydroxyl compounds.
2. To understand different reactions involved in carbonyl compounds.
3. To gain knowledge on carboxylic acids.
4. To understand the basic principles of molecular spectroscopy.
5. To identify the applications of molecular spectroscopy.

**Course outcomes:**

At the end of the course, the student will be able to

- Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.
- Use the synthetic chemistry learnt in this course to do functional group transformations.
- To propose plausible mechanisms for any relevant reaction

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**COURSE OUTCOMES**

**SEMESTER:IV**

**Course 4 :InorCourse4ganic,Organic&PhysicalChemistry**

<b>B.Sc.</b>	<b>Semester-IV</b>	<b>Credits:04</b>
<b>Course: 4</b>	<b>Inorganic,OrganicandPhysicalChemistry</b>	<b>Hrs/Wk:4</b>

**Aim and Objectives of Course:**

- To demonstrate an understanding of the structure, bonding and reactivity of metal complexes
- To provide energy, store energy, build macromolecules of carbohydrates
- To explore the photochemical synthetic methods
- To describe synthesis, structure and classification of amino acids and peptides
- To demonstrate the enthalpy and entropy changes

**Course outcomes:**

At the end of the course, the student will be able to;

- To learn about the laws of absorption of light energy by molecules and subsequent photochemical reactions.
  - To understand the concept of quantum efficiency and mechanisms of photochemical reactions.
  - Know the synthesis, structure and reactivity of main organo metallic group
  - Gain a knowledge on synthesis and uses of amino acids and proteins and their role in our body
  - Know the knowledge on biomolecules uses
- Know the synthesis and reactivity of amines and nitro compounds

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**Course Outcomes For IV Semester**

**Course 5: Inorganic & Physical Chemistry**

<b>B. Sc</b>	<b>Semester –IV (Skill Enhancement Course )</b>	<b>Credits:4</b>
<b>Course: 5</b>	INORGANIC & GENERAL CHEMISTRY	<b>Hrs/Wk:4</b>

**Aim and objectives of courses:**

- To knowledge of physical and chemical composition of the transition elements
- Phase rule determines the number of independent degrees of freedom
- To make quantitative predictions about whether equilibrium will favour products or reactants
- To understand the structure bonding in compounds
- To acquire consolidate the fundamental concepts of kinetic , Stiochiometry and reaction mechanism.

**Course outcomes:**

At the end of the course, the student will be able to:

- Categorize the coordination compounds
- Analyse the various methods of determination of reaction
- Recognize the electrochemical processes
- Evaluate electrodes and cells
- To learn the importance of inorganic elements in vital systems
- Analyse a scientific study of the kinetics of a chemical reaction

**Course Outcomes For V Semester**

<b>B. Sc</b>	<b>Semester – V (Skill Enhancement Course- Elective)</b>	<b>Credits:4</b>
<b>Course: 6B</b>	<b>Analytical Methods in Chemistry-1</b>	<b>Hrs/Wk:4</b>

**Aim and objectives of the course:**

1. To Demonstrate the usage of common laboratory apparatus used in quantitative analysis.
2. To acquire knowledge on the basic principles of volumetric analysis and gravimetric analysis
3. To Understand the theories of different types of titrations .
4. To Gain knowledge on different types of errors and their minimization methods.
5. To identify the importance of solvent extraction and ion exchange method.
6. To demonstrate skills related to analysis of water using different techniques.

**Course Outcomes:**

**Students after successful completion of the course will be able to:**

7. Demonstrate the usage of common laboratory apparatus used in quantitative analysis.
8. Acquire knowledge on the basic principles of volumetric analysis and gravimetric analysis.
9. Understand the theories of different types of titrations.
10. Gain knowledge on different types of errors and their minimization methods.
11. Identify the importance of solvent extraction and ion exchange method.
12. Demonstrate skills related to analysis of water using different techniques.

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**COURSE OUTCOMES**

**Semester-V :Paper:7B**

<b>B. Sc</b>	<b>Semester – V (Skill Enhancement Course- Elective)</b>	<b>Credits:4</b>
<b>Course: 7B</b>	<b>Analytical Methods in Chemistry-2</b>	<b>Hrs/Wk:4</b>

**Aim and objectives of courses:**

- To separate pure substances from a mixture of substances, such as cell extract.
- To separate a mixture of amino acids.
- To separate compound mixtures, to remove impurities or carry purification process.
- To detect, identify and quantify information about the atoms and molecules.
- To determine the metals in many types of samples composed of organic or inorganic matrices.

**Course Outcomes:**

Students after successful completion of the course will be able to:

1. Identify the importance of chromatography in the separation and identification of compounds in a mixture
  1. Acquire a critical knowledge on various chromatographic techniques.
  2. Demonstrate skills related to analysis of water using different techniques.
  3. Understand the principles of spectro chemistry in the determination of metal ions.
  4. Comprehend the applications of atomic spectroscopy.