

A. S.D.GOV.T.DEGREE COLLEGE FOR WOMEN(A), KAKINADA
DEPARTMENT OF CHEMISTRY
2023-2024

COURSE OUTCOMES

Semester-1

Course – 1: Essentials of Mathematics, Physics, Chemistry & Computer Science
Course Code : BSCM24101

On Completion of the course, the students will be able to		Cognitive Domain
CO1	Apply critical thinking skills to solve complex problems involving complex numbers, trigonometric ratios, vectors, and statistical measures.	Critical Thinking
CO2	To Explain the basic principles and concepts underlying a broad range of fundamental areas of physics and to Connect their knowledge of physics to everyday situations	Application
CO3	To Explain the basic principles and concepts underlying a broad range of fundamental areas of chemistry and to Connect their knowledge of chemistry to daily life.	Application
CO4	Understand the history and evolution of the Internet and to gain an understanding of network security concepts, including threats, vulnerabilities, and countermeasures.	Application

Course – 2: Advances of Mathematics, Physics, Chemistry & Computer Science
Course Code : BSCM24102

On Completion of the course, the students will be able to		Cognitive Domain
CO1	Explore the applications of mathematics in various fields of physics and chemistry, to understand how mathematical concepts are used to model and solve real-world problems.	Application
CO2	To Explain the basic principles and concepts underlying a broad range of fundamental areas of physics and to Connect their knowledge of physics to everyday situations.	Application
CO3	Understand the different sources of renewable energy and their generation processes and advances in nanomaterial's and their properties.	Application
CO4	Understand and convert between different number systems, such as binary, decimal, and hexadecimal. Differentiate between analog and digital signals and understand their characteristics.	Application

Semester-II
Course -III: GENERAL & INORGANIC CHEMISTRY
Course Code : CHE24201

On Completion of the course, the students will be able to-		Cognitive Domain
CO1	1. Understand the structure of atom and the arrangement of elements in the periodic table.	Understanding
CO2	2. Understand the nature and properties of ionic compounds.	Understanding
CO3	3. Explain the existence of special types of compounds through weak chemical forces.	Application
CO4	4. Define acids and bases and predict the nature of salts.	Application

Course -IV: INORGANIC CHEMISTRY
Course Code : CHE24202

On Completion of the course, the students will be able to	
CO1	Acquire knowledge on preparation and structure and Diborane and Borazole.
CO2	Identify the importance of Interhalogen compounds and pseudo halogens.
CO3	Comprehend the applications of d-block elements and f-block elements.
CO4	Identify the importance of Organo metallic compounds in Organic synthesis.

SECOND YEAR, SEMESTER– III
Paper III : ORGANIC CHEMISTRY & SPECTROSCOPY
Course Code: CHE203303

On Completion of the course, the students will be able to-		Cognitive Domain
CO1	Acquire the knowledge of analysis of materials by using UV and Visible light which helps in identification of impurities and conjugation in organic compounds and biological macro molecules.	Applying
CO2	Capable of identifying the functional groups present in organic molecules by using I.R. spectroscopy and molecular structure determination by using NMR spectroscopy which are useful in research.	Understanding
CO3	Get the knowledge of the bond nature of C-OH and C-X and how they are used in daily life and industries.	Understanding
CO4	Acquire the knowledge about carbonyl compounds, carboxylic acids and how they become backbone of organic chemistry.	Applying

SECOND YEAR, SEMESTER– IV

Paper IV (Course 4) INORGANIC, ORGANIC & PHYSICAL CHEMISTRY
Course Code: CHE204305

CO1	To understand the concept of hapticity and classification of organometallic compounds.
CO2	To learn constitution, configuration, ring structures, inter conversions of monosaccharaides
CO3	To learn classification and preparation of amino acids and understand concept of isoelectricpoint and Zwitter ion.
CO4	To understand the aromatic character of 5 and 6 membered heterocyclic compounds
CO5	To learn concept of tautomerism and mechanisms of various named reactionsin nitrogen containing compounds

SECOND YEAR, SEMESTER– IV

Paper V (Course 5) INORGANIC&PHYSICAL CHEMISTRY
Course Code: CHE204306

CO1	Understand the structures and geometries of the complex compounds.
CO2	Understand the crystal field splitting of d – orbitals in octahedral and tetrahedral complexes.
CO3	Understand the mechanisms of Ligand substitution reactions in octahedral and tetrahedralcomplexes.
CO4	Understand and illustrate various types of isomerism in coordination compounds.

THIRD YEAR, SEMESTER– V
Paper 6 - D ENVIRONMENTAL CHEMISTRY
Course Code: CHE205305-6D

CO1	Understand the environment functions and how it is affected by human activities.
CO2	Acquire chemical knowledge to ensure sustainable use of the world's resources and ecosystems services.
CO3	Engage in simple and advanced analytical tools used to measure the different types of pollution.
CO4	Explain the energy crisis and different aspects of sustainability.

THIRD YEAR, SEMESTER– V
Paper 7-D GREEN CHEMISTRY AND NANOTECHNOLOGY
Course Code: CHE205306-7D

CO1	Understand the importance of Green chemistry and Green synthesis.
CO2	Engage in Microwave assisted organic synthesis.
CO3	Demonstrate skills using the alternative green solvents in synthesis
CO4	Demonstrate and explain enzymatic catalysis.

