SEVA BHARATI MAHAVIDYALAYA

KAPGARI, JHARGRAM

DEPARTMENT OF CHEMISTRY

Program Outcomes, Program Specific Outcomes and Course Outcomes

Department of Chemistry

Programme Outcomes: B. Sc. Chemistry (General)

Department of Chemistry	After successful completion of three year degree program in Chemistry a student should be able to;
Programme Outcomes	PO-1. Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry. PO-2. Solve the problem and also think methodically, independently and draw a logical conclusion. PO-3. Employ critical thinking and the scientific knowledge to design, carry out, record and analyse the results of chemical reactions. PO-4. Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community. PO-5. Find out the green route for chemical reaction for sustainable development. PO-6. To inculcate the scientific temperament in the students and outside the scientific community. PO-7. Use modern techniques, various equipments and Chemical softwares.

Programme Specific Outcomes	PSO-1. Gain the knowledge of Chemistry through theory and practical experiments. PSO-2. To explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions. PSO-3. Identify chemical formulae and solve numerical problems. PSO-4. To understand the basic principles of Organic, Inorganic, Physical and Analytical Chemistry and its applications through Various laboratory experiments. PSO-5. Use modern chemical tools, Models, Chem-draw, Charts and Equipments. PSO-6. Understand good laboratory practices and safety. PSO-7. Develop research oriented skills. PSO-8. Aware and handle the sophisticated instruments/equipments.

Course Outcomes B. Sc Chemistry (General)

Semester - I

Course	**Outcomes** After completion of these courses students should be able to:
DSC-1A	CO-1. Understanding the Atomic Structure. CO-2. Understanding chemical bonding and molecular structure. CO-3. Understanding the fundamentals of Organic Chemistry. CO-4. Understanding the stereo chemistry of Organic Chemistry. CO-5. Understanding the preparations and reactions of Aliphatic Hydrocarbons, Alkanes, Alkenes and Alkynes.

SEMESTER – II	
DSC-1B	CO-1. Understanding Chemical Energetic. Review of Thermodynamics. CO-2. Understanding Chemical Equilibrium. CO-3. Understanding Ionic Equilibrium. CO-4. Understanding the preparations and reactions of Aromatic Hydrocarbons, Alkyl and Aryl Halides, Alcohols, Phenols, Ethers and Carbonyl Compounds.
SEMESTER – III	

DSC-1C	CO-1. Understanding the Ideal Solutions, River Rule, Principle of Steam Distillation and Nerst Distribution Law. CO-2. Understanding Phase Rule, Clausius-Clapeyron Equation and Eutectic Temperature. CO-3. Understanding the conductance of strong and weak electrolytes, Kohlrausch Law. CO-4. Understanding Electro Chemistry. CO-5. Understanding the preparations and reactions of Carboxylic Acids and their derivatives, Amines, Diazonium Salts, Amino Acids and Carbohydrates.
SEC-1	CO-1. Understanding the analysis of Soil. CO-2. Understanding the analysis of Water. CO-3. Understanding the analysis of Food Products. CO-4. Understanding the idea of Chromatography. CO-5. Understanding the analysis of Cosmetics.
SEMESTER - IV	
DSC-1D	CO-1. Understanding the idea of Coordination Chemistry. CO-2. Understand the idea of Crystal Field Theory. CO-3. Understanding the Kinetic Theory of Gases. CO-4. Understanding the idea of Liquids such as Surface tension and Viscosity of a liquid. CO-5. Understanding the Solid States. CO-6. Understanding the idea and explanations of Chemical Kinetics.
SEC-2	CO-1. Understanding the idea of Carbohydrates. CO-2. Understanding the Proteins, Enzymes, Lipides and Hormones. CO-3. Understanding the composition and functions of Blood coagulation and Urine.
SEMESTER - V	
DSE-1A	CO-1. Understanding Qualitative and Quantitative aspects of analysis. CO-2. Understanding Optical methods of analysis. CO-3. Understanding Thermal methods of analysis. CO-4. Understanding Electro-analytical methods. CO-5. Understanding Separation Techniques such as Solvent Extraction and Chromatographic methods.

SEC-3	CO-1. Understanding drugs discovery and development. CO-2. Understanding the preparations methods of Aspirin, Paracetamol, Chloramphenicol etc . CO-3. Understanding Fermentation methods of Ethyle Alcohol, Citric acid, Vitamin B^{12} and Vitamin C.
SEMESTER - VI	
DSE-1B	CO-1. Understanding the idea of Green chemistry. CO-2. Understanding Twelve Principles of Green chemistry. CO-3. Understanding Green Synthesis. CO-4. Understanding the future trends in Green Chemistry.
SEC-4	CO-1. Understanding the idea of Natural and Synthetic Pesticides. CO-2. Understanding Organochlorines Pesticides and Organophosphates Pesticides.