Shri Shakthikailassh women's college, Salem
Department of Chemistry

Programme outcome of Chemistry

- understanding of basis and major concepts in all disciplines of chemistry.
- able to predict and solve the problem and also think methodically, independently and draw a logical conclusion.
- Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.
- Find out the green route for chemical reaction for sustainable development.
- Develop the ability to predict the structure of compounds using various instrumental analysis.
- develop the critical thinking and to find various applications of different compounds.

Programme Specific Outcomes

- Acquire the knowledge of Chemistry through theory, skill programmes and practical‟s.
- Determines the nomenclature, stereochemistry, structures, reactivity, and mechanism of various types of chemical reactions.
- Identify chemical formulae and solve numerical problems.
- Creates curiosity and make expertise in using chemical tools, Chem-draw, instruments and Equipments.
- Make easier prediction of structure-activity relationship.
- Make aware of laboratory safety measures and their maintenance.
- Creates interest against research oriented programmes and platform for future chemist.

Course outcomes

BSc chemistry		
	SEM-SUB-CODE	**Course Outcomes**
1	I Core Chemistry-Major Paper I General Chemistry 19UCHO1	1. understand about the volumetric analysis. 2. gain knowledge about harmful effects and handling of chemicals. 3. understand the basis of atomic and electronic structure. 4. acquires ability to differentiate structure and bonding in alkane 5. Acquires knowledge about ideal ad non ideal gases.

2	II Core Chemistry-Major Paper II General Chemistry 19UCHO2	1. Gain knowledge about the types of chemical bonding 2. Understands about hydride and carbides 3. Acquire knowledge about the organic reaction mechanism 4. Ability to differentiate aromaticity 5. Understand the basis and application of Liquid crystal
3	II SBEC-I Food and Nutrition 19UCHSO1	1. Acquire knowledge about the source of healthy food 2. Understand the types of nutrition necessary for our life 3. Able to predict the reason for food poisoning and food adulterant 4. Ability to find suitable method for processing and food preservation 5. Aware of importance and also deficiency of vitamins.
4	III Core Chemistry-Major Paper III General Chemistry 19UCHO3	1. gain principle and experimental basis of qualitative analysis 2. Understand the basis of chemical reaction mechanism 3. Acquire knowledge about types of carboxylic acids and ester 4. Recognize about the structure of different solids 5. Understand the basis and terminologies of thermodynamic
5	IV SBEC-II Polymer Chemistry 19UCHSO2	1. Understand about the principle and basis of polymer formation 2. ability to differentiate stereochemistry and properties of polymers 3. aware of polymer processing 4. Understand the preparation, properties and uses of various polymers 5. ability to differentiate natural and synthetic polymers.
6	IV Core Chemistry-Major Paper IV General Chemistry 19UCHO4	1. Understand the importance and applications of nuclear chemistry 2. acquire knowledge about the preparation, properties and uses of heterocyclic compounds 3. Recognize the structure and derivatives of amines and their applications 4. ability to differentiate the limitation of thermodynamics Ist law and the necessacities of second law.

7	V Core Chemistry-Major Paper V Inorganic Chemistry 19UCHO5	1. understand the fundamental concepts in acids, bases and non aqueous solvent 2. acquire knowledge about the fundamental concepts in f block elements. 3. Recognize the fundamental concepts in coordination chemistry of transition metals. 4. Understand the theories of bonding in complex formation 5. Ability to identify the reaction mechanism in metal complexes
8	V Core Chemistry-Major Paper VI Organic Chemistry 19UCHO6	Recognize and draw constitutional isomers,stereoisomers, including enantiomers and diasteromers, racemic mixture and meso compounds . 2. Know the fundamental principles of organic chemistry and predict outcomes and derive mechanism of various types of organic reactions. 3. Understand various types of reactive intermediates and factors affecting their stability . 4. Understand the essentials of amini acids and proteins 5. acquire knowledge about natural products
9	V Core Chemistry –Major Paper VII Physical Chemistry 19UCH07	1. Ability to describe types of chemical equilibrium and different types of adsorption. 2. Acquire knowledge and be able to differentiate kinetics reactions. 3. understand the basis of electrochemistry and it's applications. 4. able to recognize the types of strong and week electrolyte.
10	V Elective Paper –I-Analytical Chemistry-I 19UCHE01	1. Aware of different apparatus and glasswares in laboratory. 2. Understand the precautions and measures in doing gravimetric analysis. 3. Ability to predict UV spectra and identify the geometries and possible transition in different compounds. 4. Understand the fundamental of IR and applications in determining structure of compounds. Also understand the concepts of electrolytic conduction and dilution. 5. Ability to differentiate IR and Raman spectra.

11	V SBEC-III Agricultural Chemistry 19UCHSO3	1. Ability to find suitable fertilizer for agriculture. 2. understand about the organic manures and their handlings and storage 3. Ability to differentiate types of soils suitable for proper agriculture. 4. Aware of available fungicide and pesticides for agriculture 5. Understand about the composition of fungicide, herbicide etc.
12	V SBEC-IV Dye Stuffs & Treatment of effluents 19UCHSO4	1. understand about the necessity of dye. 2. Ability to prepare variety of dyes 3. Acquire knowledge to find suitable dye for particular applications. 4. create interest in finding new dye 5. Ability to find different methods of dye preparation.
13	VI Core Chemistry –Major VIII Inorganic Chemistry 19UCH08	1. Understand about the fundamental of bioinorganic chemistry and it's applications. 2. Ability to differentiate coordination metal complexes and organometallic complex. 3. Gain knowledge about nano science and their recent trends. 4. Ability to predict point groups for variety of compounds.
14	VI Elective Paper –II- Organic Chemistry 19UCHE02	1. Understand the basis of carbohydrates and their importance 2. Gain knowledge about the biological importance of vitamin and antibiotics 3. Ability to predict suitable reagents for particular chemical reactions 4.creates interest in green chemistry and their advantages.
15	VI Core Chemistry - Major Paper IX Physical Chemistry 19UCH09	1. Recognize the basic concepts of thermodynamics 2. Able to predict the reversible and irreversible reaction 3. Able to understand the physical significance of third law of thermodynamics 4. Able to recognize the reaction of electrochemical cells and types

16	VI Elective Paper –III - Analytical Chemistry-II 19UCHEO3	1. Ability to purify different compounds using suitable chromatography techniques 2. understand the fundamental of thermo analytical methods. 3. Able to predict the fragments in mass spectra 4. Ability to predict the polarographic techniques 5. Creates interest in handling analytical instruments.
17	VI SBEC-V Pharmaceutical chemistry 19UCHSO5	1. Understand the terminologies in pharmaceutical chemistry 2. Ability to find the application and side effects of using various drug. 3. Ability to synthesis new drug. 4. creates interest and make new platform for doing research in synthetic drugs
18	VI SBEC-VI Industrial Chemistry 19UCHSO6	1. Gain knowledge about different explosive materials 2. Understand the process and treatment of effluent in leather industry 3. Acquire knowledge about the constituents in paint, varnishes and cleansing agent 4. Understand about the composition of cement and glasses. 5. Gain knowledge about the production of materials in electrochemical industries

MSc chemistry		
	SEM-SUBJECT	**Course Outcomes**
1	l Organic chemistry-l	1. Ability to solve problems on stereochemistry 2. Gain knowledge on structure and reactivity of compounds 3. Ability to predict suitable reagents for particular chemical reactions 4. acquire knowledge about alkaloids and flavones.
2	l Inorganic chemistry-l	1. Ability to predict strong acid and bases 2. Gain knowledge on theories of metal ligand bonding 3. Able to predict electronic spectroscopy of metal complexes 4. acquire knowledge on metal clusters. 5. understand about Inorganic reaction mechanism

3	l Physical chemistry-l	1. Recognize the basic concepts of thermodynamics 2. Able to predict the reversible and irreversible reaction 3. Able to understand the physical significance of third law of thermodynamics 4. Able to recognize the point group of different molecules
4	Polymer chemistry	1. Understand about the principle and basis of polymer formation 2. ability to differentiate sterochemistry and properties of polymers 3. aware of polymer processing 4. Understand the preparetion, properties and uses of various polymers 5. ability to differentiate natural and synthetic polymers.
5	ll Organic chemistry-ll	1. Ability to identify Aromaticity of a compounds 2. Gain knowledge on structure and reactivity of compounds 3. Ability to predict suitable reagents for particular chemical reactions 4. acquire knowledge on pericyclic reactions and photochemistry
6	ll Physical chemistry-ll	1. Recognize the basic concepts of statistical and irreversible thermodynamics 2. Able to predict the reversible and irreversible reaction 3. Able to understand the physical significance of third law of thermodynamics 4. Able to recognize the point group of different molecules
7	Spectroscopy	1. Acquire knowledge on different spectroscopy 2. Understand the precautions and measures in doing gravimetric analysis. 3. Ability to predict UV spectra and identify the geometries and possible transition in different compounds. 4. Understand the fundamental of IR and applications in determining structure of compounds. Also understand the concepts of electrolytic conduction and dilution. 5. Ability to differentiate NMR and EPR spectra.
8	EDC	Acquire knowledge on drug importance, medicinal plants, fertilizer, herbicides and insecticide used in agricultural field

9	lll organic chemistry-lll	1. Ability to identify Aromaticity of a compounds 2. Gain knowledge on structure and reactivity of compounds 3. Ability to predict suitable reagents for particular chemical reactions 4. acquire knowledge on pericyclic reactions and photochemistry
10	lll Inorganic chemistry- ll	1. Ability to predict crystal structure of compounds 2. Gain knowledge on structure of solids state 3. Acquire knowledge on application of nuclear chemistry
11	lll physical chemistry- lll	1. Recognize the basic concepts of statistical and irreversible thermodynamics 2. Able to predict the reversible and irreversible reaction 3. Able to understand the physical significance of third law of thermodynamics 4. Able to recognize the point group of different molecules
12	EMC	1. Acquire knowledge on different spectroscopy 2. Understand the basis of chromatography 3. Ability to predict and identify different compounds. 4. Understand the fundamentals of SEM, TEM
13	lV Inorganic chemistry-l ll	1. Acquire knowledge on application of organometallic chemistry.
14	lV Nano and Green Chemistry	1. understand the characterization of nano materials. 2. Acquire knowledge on green concepts on organic chemistry 3. Able to predict nano clusters