

DEPARTMENT OF CHEMISTRY

COURSE OUTCOMES

S.No.	Pap er Cod e	Paper Title	CO	Course Outcomes
1	1201	PAPER – I: INORGANI C, ORGANIC & PHYSICAL CHEMISTR Y	CO1: p-block elements –I	Student acquires understanding over the preparation, properties and uses of diborane, silanes, silicones, hydrazine and hydroxylamine.
			CO2: p-block elements -II	Students acquire comprehensive knowledge on classification of oxides, preparation, properties of interhalogen compounds and organolithium and Grignard compounds.
			CO3: Structural theory in Organic Chemistry	Student acquires an understanding over the concepts involved in the mechanism of organic reaction.
			CO4: Acyclic Hydrocarbons & Alicyclic hydrocarbons (Cycloalkanes)	Student acquires understanding over the preparation, properties and uses of alkenes and alkynes.
			CO5: Solid state	Students gain knowledge on symmetry elements of crystals, Bragg's law and crystal defects.
2	2201	PAPER – II: INORGANI C, ORGANIC & PHYSICAL CHEMISTR Y	CO1: Surface Chemistry & Chemical Bonding	Students understand the concept of adsorption, types, properties and uses of colloids and knowledge over theories of chemical bonding.
			CO 2: Stereochemistry of carbon compounds	Students understand the concepts of Stereochemistry.
			CO 3: Benzene and its reactivity	Students gain understanding over molecular structure of benzene its chemical reaction and mechanism.
			CO 4: Gaseous state & Liquid state	Students gain knowledge on van der Waals equation, Joule Thomson effect, Liquid crystals and their applications.

			CO 5: Solutions	Students gain understanding on Raoult's law, types of solutions, Nernst distribution law
3	3201	Inorganic & Organic Chemistry	CO1: Chemistry of d-block elements & Theories of bonding in metals	Students gain knowledge on the electronic configuration and properties of d-block elements and various theories of bonding in metals.
			CO2: Metal carbonyls & Chemistry of f-block elements	Students gain knowledge on the electronic configuration and properties of f-block elements and structural properties of metal carbonyls.
			CO3: Halogen compounds & hydroxy compounds	Students will know about the preparation, properties and uses of halogen and hydroxyl compounds.
			CO4: Carbonyl compounds	Students will know about the preparation, properties and uses of aldehydes and ketones.
			CO 5: Dilute solutions	Students gain knowledge on various colligative properties and their experimental determination.
4	4201	Spectroscopy & Physical Chemistry	CO1: Spectrophotometry & Electronic spectroscopy	Students gain knowledge on principles of absorption and electronic spectroscopic techniques.
			CO2: Infra-red spectroscopy & Proton magnetic resonance spectroscopy (^1H -NMR)	Students gain knowledge on principles of Infra-red & Proton magnetic resonance (^1H -NMR) spectroscopic techniques.
			CO 3: Carboxylic acids and derivatives & Active methylene compounds	Students will know about the preparation, properties of carboxylic acids and their derivatives and active methylene compounds – AAE, ME.
			CO4: Electrochemistry-I	Students acquire an understanding of the concepts of electrochemistry – Transport number, Conductance etc.,
			CO5: Electrochemistry-II & Phase rule	Students acquire an understanding of the concepts of electrochemistry – types of electrodes, potentiometric titrations and principles and applications of phase rule.

5	5201	Inorganic, Physical & Organic Chemistry	CO1: Coordination Chemistry	Students acquire knowledge over concepts of co-ordination compounds, their nomenclature and isomerism.
			CO2: Magnetic properties of metal complexes & Stability of metal complexes	Students acquire knowledge over concepts of magnetic properties and stabilities of metal complexes.
			CO3: Nitro hydrocarbons	Students gain understanding on preparation, properties and uses of nitro alkanes, NEF, Mannich and Michael addition reactions.
			CO4: Nitrogen compounds	Students gain knowledge on the types of amines, the preparation properties and uses of aromatic amines.
			CO5: Thermodynamics	Students gain understanding over the concepts of thermodynamics, Carnot's cycle, adiabatic and isothermal processes, entropy and its significance.
6	5202	Inorganic, Organic & Physical Chemistry	CO1: Reactivity of metal complexes & Bioinorganic chemistry	Students acquire knowledge about various biological importance various inorganic elements.
			CO2: Chemical kinetics & Photochemistry	Students gain understanding the concepts of chemical kinetics and reaction mechanism of photo chemical reactions.
			CO3: Heterocyclic Compounds	Students gain knowledge on synthesis and properties of Pyrrole, Pyridine, Furan and Pyridine.
			CO4: Carbohydrates	Students gain understanding on the structure of glucose, fructose and mechanisms of interconversions.
			CO5: Amino acids and proteins	Students acquire knowledge on synthesis, properties of amino acids and classification, structure of proteins.
7	6201	Analytical methods in Chemistry	CO1: Quantitative analysis	Students gain knowledge on principles of volumetric and gravimetric analysis.
			CO2: Treatment of analytical data	Students understand the concepts of errors, significant figures, Precision, accuracy standard deviation and confidence limit.
			CO3: Separation Techniques In Chemical Analysis	Students gain knowledge on the principles of Solvent extraction and Ion exchange.

			CO4:Chromatography	Students acquire knowledge on the classification, instrumentation of Paper chromatography.
			CO5: Chromatography	Students acquire knowledge on the classification, instrumentation of Column and Thin layer chromatography.
8	6202	Organic Spectroscopic Techniques	CO1: General features of absorption	Students gain knowledge on the concepts of Beer's law and the quantitative determination of Metal ions.
			CO2: UV & Visible Spectroscopy	Students gain knowledge on concepts of UV-Visible spectroscopy.
			CO3: Nuclear Magnetic Resonance Spectroscopy - I	Students gain knowledge on concepts of nuclear magnetic resonance spectroscopy.
			CO4: Nuclear Magnetic Resonance Spectroscopy – II	Students gain knowledge on concepts of nuclear magnetic resonance spectroscopy.
			CO5: Mass Spectrometry	Students gain knowledge on concepts of Mass spectrometry.
9	6203	Advanced Organic Reactions	CO1: Organic Photochemistry- I	Students gain knowledge on principles of Organic photochemistry and photoreduction reaction.
			CO2: Organic Photochemistry- II	Students acquire knowledge on Norrish, photo fries rearrangement, Dipimethane rearrangement reactions.
			CO3: Protecting Groups And Organic Reactions	Students gain knowledge on the protection of different functional groups.
			CO4: Synthetic reactions	Students acquire knowledge on Mannich, Shapiro, stark-enamine, wittig reactions and umpolung.
			CO5: New Synthetic Reactions	Students acquire knowledge on new synthetic reactions.
10	6204	Pharmaceutical and Medicinal Chemistry	CO1: Pharmaceutical chemistry Terminology	Students gain understanding of basic terminology of pharmacy.
			CO2: Drugs	Students gain knowledge on the nomenclature and classification of drugs.

			CO3: Structure, therapeutic use, activity, dosage and adverse effects of the drugs	Students gain understanding of antibiotics, cardiovascular drugs and antimicrobials.
			CO4: Structure, therapeutic use, activity, dosage and adverse effects of Commonly Used drugs	Students acquire knowledge about Antipyretics, analgesics, diuretics, anti-inflammatory drugs and antidiabetics.
			CO5: HIV-AIDS	Student's gains awareness on HIV-AIDS, causes, prevention, tests, treatment and antiretroviral drugs.

COURSE	COMBINATIONS	PROGRAM OUTCOMES	PROGRAM SPECIFIC OUTCOMES
B.Sc – MPC	MATHEMATICS, PHYSICS, CHEMISTRY	PO: After the completion of UG program the student gets eligibility to join in PG programme and B.Ed(Physical sciences), MCA, MBA, Student will be eligible to write bank PO/Clerk examinations, SSC, Civil services and other group services examinations.	The student after completing UG program me with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and diagnostic centers.
B.Sc – BZC	Botany, Zoology, CHEMISTRY	PO: After the completion of UG program the student gets eligibility to join in PG programme and B.Ed(Life sciences), MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations.	The student after completing UG program me with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and diagnostic centers.
B.Sc – BcZC	Bio-Chemistry, Zoology, CHEMISTRY	PO: After the completion of UG program the student gets eligibility to join in PG programme, B.Ed(Life sciences), MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations.	The student after completing UG program me with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and diagnostic centers.
B.Sc – BtBC	Biotechnology, Botany, CHEMISTRY	PO: After the completion of UG program the student gets eligibility to join in PG programme, B.Ed(Life sciences), MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations.	The student after completing UG program me with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and

			diagnostic centers.
B.Sc – CPCs	CHEMISTRY, Physics, Computer Science	PO: After the completion of UG program the student gets eligibility to join in PG programme, MBA, Student will be eligible to write bank PO/Clerk examinations, Civil services and other group services examinations.	The student after completing UG program me with Chemistry is eligible to join in M.Sc Chemistry, Technical assistants in Pharmaceutical companies and diagnostic centers.