(PO)

4 Years Bachelor of Science B.Sc. (Hons.) in Chemistry under CBCS

POS (Major Courses)

S.No	UG Semester	Course	POS
1.	I	MJC-1 Inorganic Chemistry: Atomic Structure, Chemical Bonding and fundamentals of organic Chemistry	i) Atomic Structure ii) Chemical Bonding. iii) Fundamentals of Organic Chemistry iv) Stereochemistry v) Aliphatic Hydrocarbons
2.	II	MJC-2 Physical Chemistry: States of matter and Ionic Equilibrium	i) Gaseous state ii) Liquid state. iii) Solid state. iv) Ionic equilibria.
3.	III	MJC-3 Organic Chemistry: Cyclic Hydrocarbons and their Halogen Derivatives	i) Reaction intermediates. ii) Chemistry of Cyclic Hydrocarbons. iii) Chemistry of Halogen Derivatives of alkanes iv) Halogen derivatives of arenes
4	III	MJC-4 Physical Chemistry: Chemical Thermodynamics and its Applications	i) Thermodynamics-I. ii) Thermochemistry iii) Thermodynamics-II. iv) Systems of variable composition.
5.	IV	MJC-5 Inorganic Chemistry: s-, p-, d- and f-block elements	i) Periodic Table and Periodicity of Elements ii) Compounds of p block elements. iii) Chemistry of noble gases. iv) Chemistry of d-block elements. v) Chemistry of f-block Elements.
6	IV	MJC-6 Organic Chemistry: Compounds with Oxygen Containing Functional Groups	i) Alcohols, Phenols, Ethers and Epoxides. ii) Aldehydes and ketones (aliphatic and aromatic). iii) Carboxylic Acids and their Derivatives. iv) Carbohydrates
7.	IV	MJC-7 Physical Chemistry: Phase Equilibria, Conductance and Electrochemical Cells	i) Phase Equilibria ii) Conductance. iii) Electrochemical cells iv) Applications of EMF measurements
8.	V	MJC-8 Co-ordination Chemistry	i) Introduction ii) Valence bond theory iii) Crystal field theory iv) Magnetic properties of transition metal complexes.

9.	V	MJC-9 Polynuclear hydrocarbons, nitrogen containing compounds, heterocyclic compounds, alkaloids and terpenoids	i) Polynuclear Hydrocarbons ii) Nitrogen co containing Compounds: Amines, Nitriles, Isocyanides and diazonium compound. iii) Heterocyclic Compounds iv) Alkaloids and Terpenoids
10.	VI	MJC-10 Colligative Properties of Dilute Solutions, Chemical Kinetics and Photochemistry	i) Colligative Properties of Dilute Solutions. ii) Kinetics of Elementary Reactions Catalysis. iii) Kinetics of Complex Reactions. iv) Photochemistry.
11.	VI	MJC-11 Organic Chemistry: Biomolecules	i) Amino Acids, Peptides and Proteins ii) Nucleic Acids. iii) Enzymes and Lipids. iv) Concept of energy in Biosystems and Pharmaceutical compounds.
12.	VI	MJC-12 Physical Chemistry: Quantum Chemistry &Spectroscopy	i) Elementary Quantum Mechanics ii) Valence Bond Theory and Molecular Orbital Theory. iii) Rotational and Electronic Spectra. iv) Vibrational and Raman Spectroscopy
13.	VII	MJC-13 Inorganic Chemistry: Organometallic Chemistry, Symmetry and Group theory	i) Introduction. ii) 6-complexes. iii) Complexes. iv) Symmetry and Group Theory.
14.	VII	MJC-14 Research Methodology	
15.	VII	MJC-15 Organic Chemistry: Spectroscopy	i) Ultraviolet (UV) Absorption Spectroscopy. ii) Infrared (IR)Absorption Spectroscopy. iii) Nuclear Magnetic Resonance (NMR) Spectroscopy iv) Electron Spin Resonance (ESR) Spectroscopy
16.	VIII	MJC-16 Analytical Methods in Chemistry	i) Qualitative and Quantitative Aspects of Analysis. ii) Optical Methods of Analysis iii) Thermal Methods of Analysis iv) Chromatography