

**B.Sc CHEMISTRY: COURSE OUTCOMES**

<b>S.No</b>	<b>Course code</b>	<b>Course title</b>		<b>Course Outcome</b>	
1	1303	Inorganic and Organic Chemistry	Sem-I MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Understand physical and chemical properties of various elements in the periodic table.
				CO2	Understand the synthesis of different compounds from organo metallic chemistry.
				CO3	Understand the structure and reactions of various organic intermediates.
				CO4	Gain knowledge on different types of organic reactions.
2.	1303P	simple salt analysis.	Sem-I MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Apply basic analytical techniques to detect the anions and cations present in the given salt sample.
3.	2303	Physical and General Chemistry	Sem-II MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Develop basic knowledge on solids, liquids and gases.
				CO2	Gain knowledge on separation techniques of solutions.
				CO3	know the different types of configurations of organic molecules by learning stereo chemistry
				CO4	Gain knowledge about different types of colloidal systems like emulsions,gels.
4.	2303P	Analysis of mixture salt.	Sem-I MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Apply basic analytical techniques to detect the anions and cations present in the given salt mixture.
5.	3303	Inorganic and Organic chemistry	Sem-III MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Gain basic knowledge on d-block & f-block elements
				CO2	Attain knowledge on halogen compounds
				CO3	Understand the importance of hydroxyl compounds in day to day life

				CO4	Develop basic knowledge of carbonyl compounds & carboxylic acid derivatives
6.	3303P	Titrimetric analysis and organic functional group reactions.	Sem-III MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Acquire knowledge about the identification of functional groups in organic compounds
				CO2	Understand the concept of quantitative estimation
7.	4303	Spectroscopy & Physical chemistry	Sem-IV MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Find out unsaturation in organic compounds
				CO2	Know the functional group and entire structure of unknown organic compounds
				CO3	Acquire knowledge on estimation of colored ions quantitatively
				CO4	Understand the concept of different phases and electrochemical reactions
8.	4303P	Physical chemistry and IR Spectral analysis	Sem-IV MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Attain knowledge on critical solution temperature of Phenol-Water system
				CO2	Apply conductometric titrations to different acid-base mixtures
				CO3	Acquire basic knowledge of IR Spectroscopy with the help of spectra
9.	5305	Inorganic, Physical & Organic Chemistry	Sem-V MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Understand the theories and applications of coordination complexes.
				CO2	Gain the knowledge on the reactivity of Nitrogen compounds.
				CO3	Attain basic knowledge on thermodynamics.
				CO4	Relate laws of thermodynamics to day to day activities.
10	5305P	Practical paper V- Organic chemistry	Sem-V MPC, BMC, BIO TECH,	CO1	Gain knowledge about the identification of functional group in organic compounds and preparation of their corresponding derivatives.

			BZC(EM/TM)		
11	5306	Inorganic, Organic & Physical Chemistry	Sem-V MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Gain knowledge on biological importance of essential elements.
				CO2	Acquire knowledge on photo physical and photo chemical reactions and their applications.
				CO3	Understand the concept of hetero cyclic compounds and their importance.
				CO4	Understand the importance of essential amino acids and proteins.
12	5306P	Practical paper VI- Physical chemistry	Sem-V MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Determine and compare the viscosity of different organic compounds.
				CO2	Determine and compare the surface tension of different organic compounds
				CO3	Determine the order of reaction with the help of chemical kinetics.
13	Paper VII	Environmental chemistry	Sem-VI MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Understand the importance of environment and its resources.
				CO2	Attain knowledge on different types of pollution and their controlling measures.
				CO3	Understand the effects of toxic chemicals and their remedies.
				CO4	Develop awareness of eco systems and bio diversities of the nature.
14	Paper VII p	Practical paper VII A	Sem-VI MPC, BMC, BIO TECH, BZC(EM/TM)	CO1	Gain knowledge about the estimation of alkalinity in water.
				CO2	Gain knowledge about the estimation of hardness of water.
15	Cluster A-1	Fuel chemistry and Batteries.	Sem-VI MPC, BMC, BIO TECH, BZC(EM)	CO1	Attain knowledge on working principle of different types of batteries.
				CO2	Understand the applications of lubricants in day to day life.
				CO3	Gain the knowledge on the products obtained from petroleum.
				CO4	Understand the composition and properties of fuels.
16	Cluster A-	Practical paper VIII	Sem-VI	CO1	Attain knowledge to synthesize the organic compounds

	1Practcals	A1	MPC, BMC, BIO TECH, BZC(EM)		
17	Cluster A-2	Inorganic materials of Industrial importance	Sem-VI MPC, BMC, BIO TECH, BZC(EM)	CO1	Acquire knowledge on manufacture of steel and cement in various commercial industries.
				CO2	Attain knowledge on manufacture of various types of glass which are used in the daily life.
				CO3	Understand how to use different nitrogen, Phosphorous and potash fertilizers in agriculture.
				CO4	Know the basic composition of surface coatings like paints, enamels, pigments, dyes and metallic coatings.
18	Cluster A-2P	Practical paper VIII A2	Sem-VI MPC, BMC, BIO TECH, BZC(EM)	CO1	Attain knowledge to synthesize the organic compounds and analyse the extra elements in organic compounds.
19	Cluster A-3	Analysis of applied industrial products.	Sem-VI MPC, BMC, BIO TECH, BZC(EM)	CO1	Develop the knowledge on the analysis of soaps , pains cements and glass.
				CO2	Compare and understand the analysis of different oils and industrial solvents.
				CO3	Acquire basic knowledge on fertilizers an polysaccharides.
				CO4	To estimate the amount of gas present in fuels and atmosphere.
20	Cluster A-3P	VIII A-3 PRACTICAL: Project work	Sem-VI MPC, BMC, BIO TECH, BZC(EM)	CO1	Acquire research knowledge on various chemistry projects.