



SACRED HEART COLLEGE (AUTONOMOUS)

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Ready for
Every Good Work

A Don Bosco Institution of Higher Education, Founded in 1951 * Affiliated to Thiruvalluvar University, Vellore * Autonomous since 1987

Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Course	Course Code	Name of the Program	Activities with direct bearing on Employability/ Entrepreneurship/ Skill development	Year of introduction
Organic Chemistry I	CH116	B.Sc Chemistry	Skill Development: Content: Stereochemistry, Bonding Activity: Molecular modelling, Elucidating Structure	2021-22
Analytical Chemistry-I	CH117	B.Sc Chemistry	Skill Development: Content: Lab safety, Separation technique, Error Analysis Activity: Following precautions in the lab, disposing the lab waste properly, qualitative Estimation of ions	2021-22
Inorganic Chemistry-I	CH216	B.Sc Chemistry	Skill Development: Content: s and p-block elements, acids and bases Activity: Identifying the properties and applications of s & p block elements, evaluating the theories of Acid	2021-22

			and bases. Application of inorganic benzene.	
Physical Chemistry-I	CH217	B.Sc Chemistry	Skill Development: Content: Ideal gas and real gas- Deviation of real gas from ideal behavior. Activity: Write down the causes of deviation of Ideal gas behavior, Derive the van der Waals equation for real gases.	2021-22
Organic Chemistry-II	CH316	B.Sc Chemistry	Skill Development: Content: Reactivity of various molecules and mechanism, Activity: Identifying the reactivity difference among various reagents and molecules	2021-22
Inorganic Chemistry-II	CH317	B.Sc Chemistry	Skill Development: Content: Chemistry of Group-14 and 15 Activity: Identify the structure of formation of molecules in Group- 14 and Group- 15 elements, Structural features of silicates. Determining the	2021-22

			structure of the molecule by VB and MO theory and importance of nuclear chemistry. Deduction of Q values	
Physical Chemistry-II	CH417	B.Sc Chemistry	Skill Development: Content: Spontaneity of a reaction, Phase rule, Surfactants Activity: Write the condition for spontaneity and find out the spontaneity in simple chemical reaction, Determine the no. of phases, components and degrees of freedom by using the phase rule, Determine the properties of surfactants and its applications	2021-22
Inorganic Qualitative Analysis	PCH408	B.Sc Chemistry	Skill Development: Content: Semi-Microanalysis Activity: Determine the ions present in the given inorganic salt mixture. synthesis of Inorganic complexes. Operate centrifugation and precipitation by semi- Micro analysis	2021-22

Inorganic Chemistry-III	CH546	B.Sc Chemistry	<p>Skill Development: Content: Properties of Lanthanides Activity: Determining the magnetic properties of transition elements. Elaborating lanthanides contraction and its consequences. Identify the chemistry of p, f, d block elements and noble gases.</p>	2021-22
Physical Chemistry-III	CH547	B.Sc Chemistry	<p>Skill Development: Content: Schrodinger's wave equation, Rate and order of a Chemical Reaction Activity: Derive a Schrodinger's wave equation for simple systems like particle in one dimensional and three dimensional box, Determine the rate and order of reaction by using the various methods.</p>	2021-22
Elective-I Bio-Inorganic Chemistry	CH549C	B.Sc Chemistry	<p>Skill Development: Content: Bioinorganic chemistry, Metalloporphyrin Activity: Illustrate the role of inorganic metals in biological systems and cells, Elucidate</p>	2021-22

			the structure of hemoglobin and myoglobin by epr and electronic spectra	
Elective-II Protein Chemistry	CH550B	B.Sc Chemistry	Skill Development: Content: Amino acid, Enzyme and Co enzyme Activity: Classify the amino acid and enzymes, Elucidate the structure and significance of thiamine phosphate	2021-22
Inorganic Chemistry-IV	CH640	B.Sc Chemistry	Skill Development: Content: Organometallic Chemistry, Bio-Inorganic Chemistry Activity: Applying various theories to predict the structure and bonding in coordination compound. Determination of different organometallic compounds, Defects in solids and analyzing the roles of Bio-inorganic compound in biological systems.	2021-22

Elective-III Materials Chemistry	CH642D	B.Sc Chemistry	Skill Development: Content: Solid state and magnetic properties Activity: Identifying the different crystal systems, analyzing solid state materials, Determine the magnetic properties of the materials	2021-22
Elective-III Chemistry of Drug Design	CH642F	B.Sc Chemistry	Skill Development: Content: Drug discovery, SAR Activity: Study and derive the equation of SAR/ QSAR , Drug structure and Solubility, Lead compound identification	2021-22
Gravimetric and Organic Analysis	PCH621	B.Sc Chemistry	Skill Development: Content: Analysis of organic compounds, Estimation of ions gravimetrically Activity: Identify the functional group, Prepare derivative for the product, quantitatively measure the ion present in the compound.	2021-22

Physical Chemistry Practicals	PCH622	B.Sc Chemistry	Skill Development: Content: Rate constant and distribution coefficient Activity: Determine the rate constant of ester hydrolysis and dissociation constant for weak electrolytes, Determine the distribution coefficient for iodine between water and CCl ₄ (or) benzoic acid between water and benzene	2021-22
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