Name of the Programme: B.Sc Chemistry

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	ORGANIC CHEMISTRY – II	CH316	• Understanding substitution and elimination reactions. • Understanding metal carbon bonds	• Understand and show the effect of pka values on acidic strength and the structure of organic compounds • Outline thermodynamic versus kinetic controlled reactions • Discuss the addition reaction of nucleophiles, electrophiles, free radical in ring and open systems. • Attribute stereochemical fates for substrates undergoing, addition, and substitution and elimination reactions. • Investigate the mechanistic pathway of competition between elimination or substitution reactions. • Develop synthetic routes using organometallic reagents for organic molecules.	Global developmental needs

2	ORGANIC CHEMISTRY - IV	CH546	• Understanding the reactivities of carbonyl compounds. • Understanding oxidation and reduction reactions	• Comment on the rate of reactivity of aldehydes and ketones; outcome of hydrolysis of amides, imides, nitriles; associate the micelle concept with the action of soap and detergents • sketch the reactions of various functional organic molecules with Grignard reagent and predict the nature of product • Relate the acidity of alpha-carbon of various carbonyl compounds, enolate ion formation process and its selectivity in product formation • Integrate the enolate ion chemistry with various naming reactions with mechanism • Illustrate the carbonyl group interconversion through various oxidation, reduction processes with stereochemistry • Build the comparative study on acidity and basicity of amines and the chemistry of aromatic six member heterocycle	Global developmental needs
3	PHARMACEUTICAL CHEMISTRY	CH549A	• To acquire a sound knowledge about the chemistry of drugs and their mechanism of action. • To learn about various types of diseases, their cause and cure through conventional and modern medicine.	• Define and explain the basic concepts involved in the pharmaceutical chemistry • Describe and summarise about the cause and treatment of several diseases and practice methods to treat and prevent them • Recognize the existence of various drugs available and compare the mechanism of action • Describe the utility of various drugs	Global developmental needs

				and learn to employ them whenever needed • Observe the cause and treatment of various disorders and recommend measures to prevent or rectify them • Explain the effectiveness of drugs and hypothesize drug designing strategies	
4	POLYMER CHEMISTRY	CH642A	• To understand the mechanism of polymerization, various techniques of polymerization • To learn about the characterization of polymers by molecular weight, reactions and degradation of polymers. • To learn the applications and appreciate the recent developments of polymers	• Students will Understand about the basics of polymer and the differences between crystalline melting temperature and glass transition temperature, as well as the effect of kinetics on both. • Students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field of Polymer Chemistry. • Students will be able to evaluate the effect of factors such as polymer structure, molecular weight, branching and diluents on crystallinity. • Students will also able to about the mechanical properties and applications of polymers. • Understand basic aspects of the solution properties of polymers, interactions and the relationship to chemical structure, including phase behaviour and the measurement of molecular weight.	Global developmental needs

5	GREEN CHEMISTRY	CH642C	• To understand the environmental concern and shrinking resources • To learn the environmental friendly products and procedure. • To take a natural view of different chemical processes	• Gain knowledge about the environmentally friendly products and procedure. • Appraising Micro Wave and Ultra sound assist organic synthesis • Relate and asses the applications of green synthesis. Comparison of heterogeneous and homogenous catalysis and photo catalysis • Analyse the organic compounds which found in application green synthesis • Understand the environmental concern and shrinking resources • Designing next generation agrochemicals from natures, using green reagents and bio catalyst.	Global developmental needs