

**3-Year BSc (Gen.) [C.B.C.S]**

**LESSON PLAN**

**Department : Chemistry**

**Session : 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023**

**CORE COURSE**

Semester	Programme	Course & Paper	Topic	Name of the Teacher	Hours (Classes)
I	General	DSC-1A(CC-1): Atomic Structure, Bonding, general organic chemistry & aliphatic hydrocarbons	Atomic Structure	S.Dhara	15
			Chemical Bonding and Molecular Structure	S.Dhara	15
			Fundamentals of Organic Chemistry	Dr. T.K.Manna	10
			Stereochemistry	S.Dhara	10
			Aliphatic Hydrocarbons, Alkanes, Alkynes	Dr. T.K.Manna	10
II	General	DSC-1B (CC-2): Chemical Energetics, Equilibria & Functional Organic Chemistry	Chemical Energetic	Dr. T.K.Manna	10
			Chemical Equilibrium	S.Dhara	10
			Ionic Equilibria	Dr. T.K.Manna	10
			Aromatic hydrocarbons	S.Dhara	10
			Alkyl and Aryl Halides, Alcohols, Phenols and Ethers, Aldehydes and ketones (aliphatic and aromatic)	Dr. T.K.Manna	20
III	General	DSC-1C(CC-3): Solutions, Phase equilibrium, Conductance, Electrochemistry & Functional Organic Chemistry	Solutions	S.Dhara	10
			Phase Equilibrium	Dr. T.K.Manna	10
			Conductance	S.Dhara	10
			Electrochemistry	Dr. T.K.Manna	10
			Carboxylic acids and their derivatives, Amines and Diazonium Salts, Diazonium salts, Carbohydrates	S.Dhara	10
			Amino Acids, Peptides and Proteins	Dr. T.K.Manna	10
		SEC-1: Basic Analytical Chemistry	Introduction, Analysis of soil, Analysis of water, Analysis of food products	S.Dhara	15
			Chromatography, Ion-exchange, Analysis of cosmetics	Dr. T.K.Manna	15
IV	General	DSC-1D(CC-4): Coordination Chemistry, States of matter Chemical Kinetics	Transition Elements (3d series), Coordination Chemistry	S.Dhara	20
			Crystal Field Theory	Dr. T.K.Manna	10
			Kinetic Theory of Gases, Liquids	S.Dhara	20
			Solids, Chemical Kinetics	Dr. T.K.Manna	10
		SEC-2: Analytical Clinical Biochemistry	Carbohydrates, Proteins, Enzymes, Lipids	S.Dhara	15
			Hormone, Structure of DNA (Watson-Crick model) and RNA, Biochemistry of disease	Dr. T.K.Manna	15
V	General	DSE-1: Analytical Methods in Chemistry	Qualitative and quantitative aspects of analysis, Optical methods of analysis	S.Dhara	30
			Thermal methods of analysis, Electro-analytical methods, Separation techniques	Dr. T.K.Manna	30
		SEC-3: Pharmaceutical Chemistry	Drugs & Pharmaceuticals	Dr. T.K.Manna	15
			Fermentation	S.Dhara	15

VI	General	DSE-2: Green Chemistry	Introduction to Green Chemistry, Principles of Green Chemistry and Designing a Chemical synthesis	S.Dhara	30
			Green Synthesis/ Reactions and some real world cases, Future Trends in Green Chemistry	Dr. T.K.Manna	30
		SEC-4: Pesticide Chemistry	General introduction to pesticides (natural and synthetic), benefits and adverse effects, changing concepts of pesticides, structure activity relationship	S.Dhara	15
			synthesis and technical manufacture and uses of representative pesticides in the following classes: Organochlorines (DDT, Gammexene,); Organophosphates (Malathion, Parathion); Carbamates (Carbofuran and carbaryl); Quinones (Chloranil), Anilides (Alachlor and Butachlor)	Dr. T.K.Manna	15