SYLLABUS OF EVEN SEMESTER

SEM 6 Hons

Subject	Topic	Faculty
CEMA-CC-6-13-TH INORGANIC CHEMISTRY	Theoretical Principles in Qualitative Analysis	Dr. Ipsita Bhattacharya
	Bioinorganic Chemistry	Dr. Monoj Kumar Barman
	Organometallic Chemistry	Dr. Manas Kumar Biswas
CEMA-CC-6-14-TH PHYSICAL CHEMISTRY	Molecular Spectroscopy	Dr. Prasenjit Pandey
	Photochemistry and Theory of reaction rate	Dr. Niladri Sekhar Karan
	Surface phenomenon, Dipole moment and polarizability	Dr. Srijita Basumallick
DSE-A4: ANALYTICAL METHODS IN CHEMISTRY	Optical methods of analysis	Dr. Monoj Kumar Barman
	Thermal methods of analysis Electroanalytical methods Separation techniques	Dr. Ipsita Bhattacharya
DSE B-4: Dissertation		Dr. Madhusudan Banerjee, Dr. Keya Ghosh, Dr. Srijita Basumallick, Dr. Niladri Sekhar Karan, Dr. Monoj Kumar Barman, Dr. Prasenjit Pandey, Dr. Manas Kumar Biswas

SEM 6 GENERAL

Subject	Topic	Faculty
DSE-B2: **ANALYTICAL METHODS IN CHEMISTRY**	**Optical methods of analysis**	**Dr. Monoj Kumar Barman**
	Thermal methods of analysis **Electroanalytical methods** **Separation techniques**	**Dr. Ipsita Bhattacharya**

SEM 4 Hons.

Subject	Topic	
CEMA-CC-4-8-TH **ORGANIC CHEMISTRY**	• **Nitrogen compounds,** • **Organic Spectroscopy (UV and IR)**	**Dr. Paramita Das**
	• **Rearrangements,** • **The Logic of Organic Synthesis,** • **Organic Spectroscopy (NMR)**	**Dr. Keya Ghosh**

CEMA-CC-4-9-TH **PHYSICAL CHEMISTRY**	**Application of Thermodynamics – II**	**Dr. Niladri Sekhar Karan**
	Foundation of Quantum Mechanics	**Dr. Prasenjit Pandey**
	Crystal Structure	**Dr. Srijita Basumallick**
CEMA-CC-4-10 **INORGANIC CHEMISTRY**	**Coordination Chemistry-II**	**Dr. Manas Kumar Biswas**
	Chemistry of d- and f- block elements	**Dr. Monoj Kumar Barman**
	Reaction Kinetics and Mechanism	**Dr. Ipsita Bhattacharya**
SEC 3 **PHARMACEUTICALS CHEMISTRY**		**Dr. Keya Ghosh** **Dr Paramita Das**

SEM 4 General Theory **CC4/GE 4**	**Alcohols, Phenols and Ethers** **Alcohols**	**Dr. Paramita Das**

	Carbonyl Compounds Aldehydes and Ketones (aliphatic and aromatic) **Carboxylic Acids and Their Derivatives** **Amines and Diazonium Salts** **Amines (aliphatic and aromatic)** **Nitro compounds (aromatic)** **Amino Acids and Carbohydrates**	
	Crystal Field Theory	**Dr. Niladri Sekhar Karan**
	Quantum Chemistry & Spectroscopy	**Dr. Srijita Basumallick**
SEC(B) SEC 3 – PHARMACEUTICALS CHEMISTRY		**Dr. Keya Ghosh** **Dr. Paramita Das**
SEM 4 General Practical CC4/GE 4	**1.Qualitative Analysis of Single Solid Organic Compound(s) Experiments A - C with unknown (at least 6) solid** **2.Identification of a pure organic compound Solid compounds**	**All Faculties**

SEM-2 Hons.

CEMA-CC-2-4-TH **INORGANIC CHEMISTRY**	*Chemical Bonding-I*	**Dr. Monoj Kumar Barman**
	Chemical Bonding-II	**Dr. Manas Kumar Biswas**
	Radioactivity **& Weak Chemical Forces**	**Dr. Ipsita Bhattacharya**
CEMA-CC-2-3-TH **ORGANIC CHEMISTRY**	**Stereochemistry**	**Dr. Keya Ghosh**
	General Treatment of Reaction Mechanism	**Dr. Paramita Das**
	Substitution Reactions	**Dr. Keya Ghosh**
	Elimination Reactions	**Dr. Paramita Das**

SEM-2 General

CC2/GE 2 Theory	Chemical Equilibrium, Phase Equilibria & Solutions	**Dr. Niladri Sekhar Karan**
	Phase Equilibria, Solids & Redox reactions	**Dr. Srijita Basumallick**
	Chemical Thermodynamics & Error Analysis and Computer Applications	**Dr. Prasenjit Pandey**
	Aliphatic Hydrocarbons & Redox reactions	**Dr. Manas Kumar Biswas**
CC2/GE 2 Practical	**Experiment 1: Study of kinetics of acid-catalyzed hydrolysis of methyl acetate** **Experiment 2: Study of kinetics of decomposition of H2O2 (Clock Reaction)** **Experiment 3: Study of viscosity of unknown liquid (glycerol, sugar) with respect to water.**	**All faculties**

	Experiment 4: Determination of solubility of sparingly soluble salt in water, in electrolyte with common ions and in neutral electrolyte (using common indicator) **Experiment 5: Preparation of buffer solutions and find the pH of an unknown buffer solution by colour matching method** **Experiment 6: Determination of surface tension of a liquid using Stalagmometer**	