

## SYLLABUS OF EVEN SEMESTER

### SEM 6 Hons

Subject	Topic	Faculty
<b>CEMA-CC-6-13-TH INORGANIC CHEMISTRY</b>	<b>Theoretical Principles in Qualitative Analysis</b>	<b>Dr. Ipsita Bhattacharya</b>
	<b>Bioinorganic Chemistry</b>	<b>Dr. Monoj Kumar Barman</b>
	<b>Organometallic Chemistry</b>	<b>Dr. Manas Kumar Biswas</b>
<b>CEMA-CC-6-14-TH PHYSICAL CHEMISTRY</b>	<b>Molecular Spectroscopy</b>	<b>Dr. Prasenjit Pandey</b>
	<b>Photochemistry and Theory of reaction rate</b>	<b>Dr. Niladri Sekhar Karan</b>
	<b>Surface phenomenon, Dipole moment and polarizability</b>	<b>Dr. Srijita Basumallick</b>
<b>DSE-A4: GREEN CHEMISTRY</b>	<b>Introduction, Principle, Examples Future Trends</b>	<b>Dr. Keya Ghosh</b>
	<b>Alkaloid &amp; Terpenes</b>	<b>Dr. Paramita Das</b>
<b>DSE B-4: Dissertation</b>		<b>Dr. Madhusudan Banerjee, Dr. Keya Ghosh, Dr. Srijita Basumallick, Dr. Niladri Sekhar Karan, Dr. Monoj Kumar Barman, Dr. Prasenjit Pandey, Dr. Manas Kumar Biswas, Dr. Paramita Das</b>

**SEM 6 GENERAL**

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

**SEM 4 Hons.**

<b>Subject</b>	<b>Topic</b>	
<b>CEMA-CC-4-8-TH ORGANIC CHEMISTRY</b>	<ul style="list-style-type: none"><li>• Nitrogen compounds,</li><li>• Organic Spectroscopy (UV and IR)</li></ul>	<b>Dr. Paramita Das</b>
	<ul style="list-style-type: none"><li>• Rearrangements,</li><li>• The Logic of Organic Synthesis,</li><li>• Organic Spectroscopy (NMR)</li></ul>	<b>Dr. Keya Ghosh</b>

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

<p><b>SEM 4 General Theory</b> CC4/GE 4</p>	<p><b>Alcohols, Phenols and Ethers</b> Alcohols, 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, Quantum Chemistry &amp; Spectroscopy</p>	<p><b>Dr. Prasenjit Pandey, Dr. Niladri Sekhar Karan, Dr. Srijita Basumallick</b></p>
<p><b>SEC(B) SEC 3 – PHARMACEUTICALS CHEMISTRY</b></p>		<p><b>Dr. Paramita Das</b></p>
<p><b>SEM 4 General Practical</b> CC4/GE 4</p>	<p><b>1. Qualitative Analysis of Single Solid Organic Compound(s) Experiments A - C with unknown (at least 6) solid</b> <b>2. Identification of a pure organic compound Solid compounds</b></p>	<p><b>All Faculties</b></p>

**SEM-2 Hons.**

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

**SEM-2 General**

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

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