



Khatra Adibasi Mahavidyalaya
Department of Chemistry_Syllabus Module

Session 2018-2019

<u>Faculty Name</u>	<u>1st Semester</u>	<u>3rd Semester</u>	<u>3rd Year</u>
Dr. Swarup Kumar Maji	Core C1A - T1 Inorganic Chemistry Atomic Structure Chemical Periodicity Acids and bases Redox reactions Core C1A - P1 Inorganic Chemistry Lab	Core C6 - T6 - Inorganic Chemistry II Chemical Bonding-I Chemical Bonding-II Radioactivity Core C6 - P6 - Inorganic Chemistry II Lab Iodo / Iodimetric Titrations Estimation of metal content in some selective samples	Paper IX Theory Inorganic solids Reaction mechanism Metal ions in living systems Organometallic compounds Synthesis, structure, bonding (using IR results) and reaction Nano and supramolecular chemistry Practical Inorganic experiments: Volumetric estimation using (i) redox and (ii) complexometric titration
Parimal Konar	Core C2 - T2 - Physical Chemistry I Kinetic Theory and Gaseous state Chemical Thermodynamics Chemical kinetics Core C2 - P2 - Physical Chemistry I Lab	Core C5 - T5 - Physical Chemistry II Transport processes Applications of Thermodynamics – I Foundation of Quantum Mechanics Core C1C – T3 Physical Chemistry Chemical Energetics Chemical Equilibrium Conductance Core C5 - P5 - Physical Chemistry II Lab Core C1C – P3 Physical Chemistry Lab Thermochemistry Conductance	Paper XI Theory Electrochemistry Properties of solids, interfaces and dielectrics Symmetry and group Quantum chemistry Photochemistry and spectroscopy Statistical thermodynamics and the third law Practical Physical chemistry experiments
Soumen Rakshit		SEC T1 – Basic Analytical Chemistry Introduction Analysis of soil Analysis of water Analysis of food products Chromatography Ion-exchange	Paper IX Theory Nuclear and radioanalytical chemistry Statistical methods in analytical chemistry Analytical methods

		Analysis of cosmetics Suggested Applications Suggested Instrumental demonstrations	Methodologies in separational chemistry Practical Analytical experiments
Saroj Kumar Modak	<p>Core C1 - T1 Organic Chemistry I Bonding and Physical Properties General Treatment of Reaction Mechanism I Stereochemistry-I</p> <p>Core C1A - T1 Organic Chemistry Fundamentals of Organic Chemistry Stereochemistry Nucleophilic Substitution and Elimination Reactions Aliphatic Hydrocarbons Alkanes Alkenes Alkynes Reactions</p> <p>Core C1 - P1 – Organic Chemistry I Lab Separation Determination of boiling point Identification of a Pure Organic Compound</p> <p>Core C1A - P1 Organic Chemistry Lab Qualitative Analysis of Single Solid Organic Compound(s)</p>	<p>Core C7 - T7 - Organic Chemistry III Chemistry of alkenes and alkynes Aromatic Substitution Carbonyl and Related Compounds Organometallics</p> <p>Core C1C – T3 Organic Chemistry II Aromatic Hydrocarbons Organometallic Compounds Aryl Halides Alcohols, Phenols and Ethers Carbonyl Compounds</p> <p>Core C7 - P7 - Organic Chemistry III Lab Qualitative Analysis of Single Solid Organic Compounds</p> <p>Core C1C – P3 Organic Chemistry Lab Identification of a pure organic compound</p>	<p>Paper X Theory Dyes Medicinal Chemistry Heterocyclic Compounds Amino Acids and Proteins Carbohydrate Chemistry Alkaloids and Terpenenoids Methodology in organic synthesis Pericyclic reactions Spectroscopy Nucleic acids Green chemistry</p>

	<u>2nd Semester</u>	<u>4th Semester</u>	
Dr. Swarup Kumar Maji	<p>Core C3 - T3 - Inorganic Chemistry II Extra nuclear Structure of atom Chemical periodicity</p> <p>Core C1B – T2 Inorganic Chemistry Chemical Bonding and Molecular Structure Comparative study of p-block elements</p>	<p>Core C9 - T9 - Inorganic Chemistry III General Principles of Metallurgy Chemistry of s and p Block Elements Inorganic Polymers</p> <p>Core C1D – T4 Inorganic Chemistry Transition Elements Coordination Chemistry</p>	

	<p>Core C3 - P3 - Inorganic Chemistry II Lab Acid and Base Titrations</p> <p>Core C1B – P2 Inorganic Chemistry Lab Qualitative semi-micro analysis of mixtures containing three radicals</p>	<p>Crystal Field Theory Analytical and Industrial Chemistry</p> <p>Core C9 - P9 - Inorganic Chemistry III Lab Inorganic preparations</p> <p>Core C1D – P4 Inorganic Chemistry Lab</p>	
Parimal Konar	<p>Core C1B – T2 Physical Chemistry Kinetic Theory of Gases and Real gases Liquids Solids Chemical Kinetics</p> <p>Core C1B – P2 Physical Chemistry Lab Surface tension measurement Viscosity measurement Kinetics Study</p>	<p>Core C8 - T8 - Physical Chemistry III Application of Thermodynamics – II Electrical Properties of molecules Quantum Chemistry</p> <p>Core C8 - P8 - Physical Chemistry III Lab</p>	
Soumen Rakshit	<p>Core C3 - T3 - Inorganic Chemistry II Acid-Base reactions Redox Reactions and precipitation reactions</p> <p>Core C3 - P3 - Inorganic Chemistry II Lab Oxidation-Reduction Titrations</p>	<p>Core C9 - T9 - Inorganic Chemistry III Noble Gases Coordination Chemistry-I</p> <p>Core C9 - P9 - Inorganic Chemistry III Lab Complexometric titration</p>	
Saroj Kumar Modak	<p>Core C4 - T4 - Organic Chemistry II Stereochemistry II General Treatment of Reaction Mechanism II Substitution and Elimination Reactions</p> <p>Core C4 - P4 - Organic Chemistry II Lab Organic Preparations</p>	<p>Core C10 - T10 - Organic Chemistry IV Nitrogen compounds Rearrangements The Logic of Organic Synthesis Organic Spectroscopy</p> <p>SEC2 - T2 - Pharmaceuticals Chemistry Drugs & Pharmaceuticals Fermentation Hands On Practical</p> <p>Core C1D – T4 Organic Chemistry Carboxylic Acids and Their Derivatives Amines and Diazonium Salts Amino Acids and Carbohydrates</p> <p>Core C10 - P10 - Organic Chemistry IV Lab</p> <p>Core C1D – P4 Organic Chemistry Lab</p>	