

Academic Plan of Department of Chemistry_CBCS_2022-2023:

Semester	Time Frame	Paper	Topics	Teachers	Other Activities
1	July	CEMA-CC-1-1-Th & Pr	Extra nuclear Structure of atom Acid and Base Titrations: (DEMO ONLY)	CB	Class Test
		CEMA-CC-1-1A&2-Th & Pr	Bonding and Physical Properties Separation of Organic compound	CH	
		CEMA-CC-1-2-Th & Pr	Kinetic Theory and Gaseous state Study of kinetics of decomposition of H ₂ O ₂	GN	
	August	CEMA-CC-1-1-Th & Pr	Acid-Base reactions Oxidation-Reduction Titrations	CB	Class Test
		CEMA-CC-1-1&2-Th	Bonding and Physical Properties Separation of Organic compound	CH	
		CEMA-CC-1-2-Th & Pr	Kinetic Theory and Gaseous state Study of kinetics of acid-catalyzed hydrolysis of methyl acetate	GN	
	September	CEMA-CC-1-1-Th & Pr	Redox Reactions Oxidation-Reduction Titrations	CB	Class Test
		CEMA-CC-1-1&2-Th	General Treatment of Reaction Mechanism I & II Separation of Organic compound	CH	
		CEMA-CC-1-2-Th & Pr	Transport processes Study of viscosity of unknown liquid Study of the variation of viscosity with the concentration	GN	
	October (Puja Vacation: 1 st -31 st)	CEMA-CC-1-1-Th & Pr	Revision, Home Assignment & Work Sheet	CB	
		CEMA-CC-1-1&2-Th	Revision, Home Assignment & Work Sheet	CH	
		CEMA-CC-1-2-Th & Pr	Revision, Home Assignment & Work Sheet	GN	
	November	CEMA-CC-1-1-Th & Pr	Redox Reactions Oxidation-Reduction Titrations	CB	Class Test
		CEMA-CC-1-1&2-Th	Stereochemistry I Determination of boiling point of common organic liquid compounds	CH	
		CEMA-CC-1-2-Th & Pr	Chemical kinetics Determination of solubility of sparingly soluble salt	GN	
	December (Christmas 24 th – 31 st)	CEMA-CC-1-1-Th & Pr	Revision	CB	Class Test
		CEMA-CC-1-1&2-Th	Revision	CH	
		CEMA-CC-1-2-Th & Pr	Revision	GN	

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2	January	CEMA-CC-2-4-Th & Pr	Chemical Bonding-I Iodo-/ Iodimetric Titrations	CB	Class Test
		CEMA-CC-2-3-Th & Pr	StereochemistryII Organic Preparations, Purification of the crude product and Checking of Melting point.	CH	
	February	CEMA-CC-2-4-Th & Pr	Chemical Bonding-I Iodo-/ Iodimetric Titrations	CB	Class Test
		CEMA-CC-2-3-Th & Pr	StereochemistryII Organic Preparations, Purification of the crude product and Checking of Melting point.	CH	
	March	CEMA-CC-2-4-Th & Pr	Chemical Bonding-II Iodo-/ Iodimetric Titrations	CB	Class Test
		CEMA-CC-2-3-Th & Pr	General Treatment of Reaction Mechanism III Organic Preparations, Purification of the crude product and Checking of Melting point.	CH	
	April	CEMA-CC-2-4-Th & Pr	Chemical Bonding-II Estimation of metal content in some selective samples	CB	Class Test
		CEMA-CC-2-3-Th & Pr	General Treatment of Reaction Mechanism III Organic Preparations, Purification of the crude product and Checking of Melting point.	CH	
	May	CEMA-CC-2-4-Th & Pr	Radioactivity Estimation of metal content in some selective samples	CB	Class Test
		CEMA-CC-2-3-Th & Pr	General Treatment of Reaction Mechanism III Organic Preparations, Purification of the crude product and Checking of Melting point.	CH	
	June	CEMA-CC-2-4-Th & Pr	Revision	CB	Class Test
		CEMA-CC-2-3-Th & Pr	Revision	CH	

Semester	Time Frame	Paper	Topics	Teachers	Other Activities
3	July	CEMA-CC-3-6 Th & Pr	Chemical periodicity Complexometric titration	CB	Class Test
		CEMA-CC-3-7 Th & Pr	Chemistry of alkenes and alkynes Identification of a Pure Organic Compound: Solid compounds	CH	
		CEMA-CC-3-5 Th & Pr	Chemical Thermodynamics I Conductometric titration of an acid	GN	
		SEC 2 – ANALYTICAL CLINICAL BIOCHEMISTRY	Carbohydrates Identification and estimation: Carbohydrates and Lipids	CB	
	August	CEMA-CC-3-6 Th & Pr	Chemistry of s and p Block Elements Complexometric titration	CB	Class Test
		CEMA-CC-3-7 Th & Pr	Aromatic Substitution Identification of a Pure Organic Compound: Liquid Compounds	CH	
		CEMA-CC-3-5 Th & Pr	Chemical Thermodynamics II Study of saponification reaction conductometrically	GN	
		SEC 2 – ANALYTICAL CLINICAL BIOCHEMISTRY	Proteins Identification and estimation: Iodine number and Saponification Number	CB	
	September	CEMA-CC-3-6 Th & Pr	Noble Gases Inorganic Polymers Chromatography of metal ions	CB	Class Test
		CEMA-CC-3-7 Th & Pr	Carbonyl and Related Compounds Quantitative Estimations:	CH	
		CEMA-CC-3-5 Th & Pr	Systems of Variable Composition Applications of Thermodynamics – I Verification of Ostwald's dilution law	GN	
		SEC 2 – ANALYTICAL CLINICAL BIOCHEMISTRY	Enzymes, Lipids & Lipoproteins Identification and estimation: Proteins Isolation of protein Determination of cholesterol	CB	
	October (Puja Vacation: 1 st -31 st)	CEMA-CC-3-6-Th & Pr	Revision, Home Assignment & Work Sheet	CB	
		CEMA-CC-3-7 Th & Pr	Revision, Home Assignment & Work Sheet	CH	
		CEMA-CC-3-5 Th & Pr	Revision, Home Assignment & Work Sheet	GN	
		SEC 2 – ANALYTICAL CLINICAL BIOCHEMISTRY	Revision, Home Assignment & Work Sheet	CB	
	November	CEMA-CC-3-6 Th & Pr	Coordination Chemistry-I Gravimetry	CB	Class Test
		CEMA-CC-3-7 Th & Pr	Organometallics Quantitative Estimations:	CH	
		CEMA-CC-3-5 Th & Pr	ELECTROCHEMISTRY: Potentiometric titration Determination of heat of neutralization	GN	
		SEC 2 – ANALYTICAL CLINICAL BIOCHEMISTRY	Biochemistry of disease Identification and estimation: Determination of protein and nucleic acids	CB	
December (Christmas 24 th – 31 st)	CEMA-CC-3-6 Th & Pr	Revision	CB	Class Test	
	CEMA-CC-3-7 Th & Pr	Revision	CH		
	CEMA-CC-3-5 Th & Pr	Revision	GN		
	SEC 2 – ANALYTICAL CLINICAL BIOCHEMISTRY	Revision	CB		

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4	January	CEMA-CC-4-10-TH & Pr	Coordination Chemistry-II Inorganic preparations	CB	Class Test
		CEMA-CC-4-8-TH & Pr	Nitrogen compounds Qualitative Analysis of Solid Organic Compounds	CH	
		CEMA-CC-4-9-TH & Pr	Application of Thermodynamics – II Kinetic study of inversion of cane sugar	GN	
		SEC 3 – PHARMACEUTICALS CHEMISTRY	Drugs & Pharmaceuticals	CB	
	February	CEMA-CC-4-10-TH & Pr	Coordination Chemistry-II Inorganic preparations	CB	Class Test
		CEMA-CC-4-8-TH & Pr	Rearrangements Qualitative Analysis of Single Solid Organic Compounds	CH	
		CEMA-CC-4-9-TH & Pr	Application of Thermodynamics – II Study of Phase diagram	GN	
		SEC 3 – PHARMACEUTICALS CHEMISTRY	Drugs & Pharmaceuticals	CB	
	March	CEMA-CC-4-10-TH & Pr	Chemistry of d- and f- block elements Inorganic preparations	CB	Class Test
		CEMA-CC-4-8-TH & Pr	The Logic of Organic Synthesis Qualitative Analysis of Single Solid Organic Compounds	CH	
		CEMA-CC-4-9-TH & Pr	Foundation of Quantum Mechanics Determination of partition coefficient	GN	
		SEC 3 – PHARMACEUTICALS CHEMISTRY	Drugs & Pharmaceuticals	CB	
	April	CEMA-CC-4-10-TH & Pr	Chemistry of d- and f- block elements Inorganic preparations	CB	Class Test
		CEMA-CC-4-8-TH & Pr	Organic Spectroscopy Qualitative Analysis of Single Solid Organic Compounds	CH	
		CEMA-CC-4-9-TH & Pr	Foundation of Quantum Mechanics Determination of pH of unknown solution	GN	
		SEC 3 – PHARMACEUTICALS CHEMISTRY	Fermentation	CB	
	May	CEMA-CC-4-10-TH & Pr	Reaction Kinetics and Mechanism Instrumental Techniques	CB	Class Test
		CEMA-CC-4-8-TH & Pr	Organic Spectroscopy Qualitative Analysis of Single Solid Organic Compounds	CH	
		CEMA-CC-4-9-TH & Pr	Crystal Structure pH-metric titration of acids	GN	
		SEC 3 – PHARMACEUTICALS CHEMISTRY	Preparation of Aspirin and its analysis. Preparation of magnesium bisilicate (Antacid).	CB	
	June	CEMA-CC-4-10-TH & Pr	Revision	CB	Class Test
		CEMA-CC-4-8-TH & Pr	Revision	CH	
		CEMA-CC-4-9-TH & Pr	Revision	GN	
		SEC 3 – PHARMACEUTICALS CHEMISTRY	Revision	CB	

Semester	Time Frame	Paper	Topics	Teachers	Other Activities
5	July	CEMA-CC-5-12-TH & Pr	Carbocycles and Heterocycles Chromatographic Separations	CH	Class Test
		CEMA-CC-5-11-Th & Pr	Quantum Chemistry II Numerical Analysis Programming 1: Roots of equations	GN	
		DSE-A-2: APPLICATIONS OF COMPUTERS IN CHEMISTRY	Computer Programming Basics (FORTRAN): Practicals	GN	
		DSE-B-1: INORGANIC MATERIALS OF INDUSTRIALIMPORTANCE	Silicate Industries, Fertilizers Practicals	CB	
	August	CEMA-CC-5-12-TH & Pr	Cyclic Stereochemistry Chromatographic Separations	CH	Class Test
		CEMA-CC-5-11-Th & Pr	Quantum Chemistry II Numerical Analysis Programming 1: Roots of equations	GN	
		DSE-A-2: APPLICATIONS OF COMPUTERS IN CHEMISTRY	Computer Programming Basics (FORTRAN): Practicals	GN	
		DSE-B-1: INORGANIC MATERIALS OF INDUSTRIALIMPORTANCE	Surface Coatings, Batteries Practicals	CB	
	September	CEMA-CC-5-12-TH & Pr	Pericyclic reactions Carbohydrates Spectroscopic Analysis of Organic Compounds	CH	Class Test
		CEMA-CC-5-11-Th & Pr	Quantum Chemistry II Programming 2: Numerical differentiation	GN	
		DSE-A-2: APPLICATIONS OF COMPUTERS IN CHEMISTRY	Introduction to Spreadsheet Software(MS Excel) Practicals	GN	
		DSE-B-1: INORGANIC MATERIALS OF INDUSTRIALIMPORTANCE	Alloys, Catalysis Practicals	CB	
	October (Puja Vacation: 1 st -31 st)	CEMA-CC-5-12-TH & Pr	Revision, Home Assignment & Work Sheet	CH	
		CEMA-CC-5-11-Th & Pr	Revision, Home Assignment & Work Sheet	GN	
		DSE-A-2: APPLICATIONS OF COMPUTERS IN CHEMISTRY	Revision, Home Assignment & Work Sheet	GN	
		DSE-B-1: INORGANIC MATERIALS OF INDUSTRIALIMPORTANCE	Revision, Home Assignment & Work Sheet	CB	
	November	CEMA-CC-5-12-TH & Pr	Biomolecules Spectroscopic Analysis of Organic Compounds	CH	Class Test
		CEMA-CC-5-11-Th & Pr	Statistical Thermodynamics Programming 3: Numerical integration	GN	
		DSE-A-2: APPLICATIONS OF COMPUTERS IN CHEMISTRY	Statistical Analysis Practicals	GN	
		DSE-B-1: INORGANIC MATERIALS OF INDUSTRIALIMPORTANCE	Chemical explosives Practicals	CB	
December (Christma s 24 th – 31 st)	CEMA-CC-5-12-TH & Pr	Revision	CH	Class Test	
	CEMA-CC-5-11-Th & Pr	Revision	GN		
	DSE-A-2: APPLICATIONS OF COMPUTERS IN CHEMISTRY	Revision	GN		
	DSE-B-1: INORGANIC MATERIALS OF INDUSTRIALIMPORTANCE	Revision	CB		

Semester	Time Frame	Paper	Topics	Teachers	Other Activities
6	January	CEMA-CC-6-13-Th & Pr	Theoretical Principles in Qualitative Analysis Qualitative semimicro analysis of mixtures	CB	Class Test
		CEMA-CC-6-14-Th & Pr	Molecular Spectroscopy Determination of surface tension Determination of the indicator constant	GN	
		DSE-A-3: GREEN CHEMISTRY	Introduction to Green Chemistry, Principles of Green Chemistry and Designing a Chemical synthesis Practicals	CH	
		DSE B-4 :	Dissertation	CB,CH, GN	
	February	CEMA-CC-6-13-Th & Pr	Bioinorganic Chemistry Qualitative semimicro analysis of mixtures	CB	Class Test
		CEMA-CC-6-14-Th & Pr	Molecular Spectroscopy Verification of Beer and Lambert's Law	GN	
		DSE-A-3: GREEN CHEMISTRY	Examples of Green Synthesis/ Reactions and some real world cases Practicals	CH	
		DSE B-4 :	Dissertation	CB,CH, GN	
	March	CEMA-CC-6-13-Th & Pr	Organometallic Chemistry Qualitative semimicro analysis of mixtures	CB	Class Test
		CEMA-CC-6-14-Th & Pr	Photochemistry and Theory of reaction rate Study of kinetics of K ₂ S ₂ O ₈ + KI reaction	GN	
		DSE-A-3: GREEN CHEMISTRY	Future Trends in Green Chemistry Practicals	CH	
		DSE B-4 :	Dissertation	CB,CH, GN	
	April	CEMA-CC-6-13-Th & Pr	Catalysis by Organometallic Compounds Qualitative semimicro analysis of mixtures	CB	Class Test
		CEMA-CC-6-14-Th & Pr	Photochemistry and Theory of reaction rate Determination of pH of unknown buffer	GN	
		DSE-A-3: GREEN CHEMISTRY	Alkaloids Practicals	CH	
		DSE B-4 :	Dissertation	CB,CH, GN	
	May	CEMA-CC-6-13-Th & Pr	Qualitative semimicro analysis of mixtures	CB	Class Test
		CEMA-CC-6-14-Th & Pr	Surface phenomenon Determination of CMC of a micelle	GN	
		DSE-A-3: GREEN CHEMISTRY	Terpenes Practicals	CH	
		DSE B-4 :	Dissertation	CB,CH, GN	
June	CEMA-CC-6-13-Th & Pr	Revision	CB	Class Test	
	CEMA-CC-6-14-Th & Pr	Revision	GN		
	DSE-A-3: GREEN CHEMISTRY	Revision	CH		
	DSE B-4 :	Dissertation	CB,CH, GN		