**ACADEMIC CALENDER 2022-2023**

**(EVEN SEMESTER)**

CHEMISTRY DEPARTMENT

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| Semester | Syllabus  Module/Unit | Topic | No of Lectures  (Hours) | Teachers | Distributions |
| 2nd Semester  (Honours) | Inorganic Chemistry-I  (CEMACOR03T) | Extra nuclear structure of atom | 18L | AD | 4 weeks |
|  | Inorganic Chemistry-I  (CEMACOR03T) | Chemical periodicity | 8L | DC | 2 weeks |
|  | Inorganic Chemistry-I  (CEMACOR03T) | Acid-Base reaction | 16L | SB | 3 weeks |
|  | Inorganic Chemistry-I  (CEMAOR03T) | Redox Reaction and precipitation reaction | 18L | AD | 3 weeks |
|  | Inorganic Chemistry-I Lab  (CEMACOR03P) | 1. Acid Base titration 2. Oxidation Reduction titration | 60L | SB | 10 weeks |
|  | Organic Chemistry-II  (CEMACOR04T) | Stereochemistry-II | 20L | DC | 4 weeks |
|  | Organic Chemistry-II  (CEMACOR04T) | General Treatment of Reaction Mechanism II | 22L | AD | 4 weeks |
|  | Organic Chemistry-II  (CEMACOR04T | Substitution and Elimination Reaction | 18L | DC | 4 weeks |
|  | Organic Chemistry-II Lab  (CEMACOR04P) | Organic Preparations | 60L | AD+DC | 10 weeks |

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| Semester | Syllabus  Module/Unit | Topic | No of Lectures  (Hours) | Teachers | Distributions |
| 2nd Semester  (General) | Physical Chemistry-I  (CEMGCOR02T)  Section-A | Kinetic Theory of Gases and Real gases | 10L | AB | 2 weeks |
|  | Physical Chemistry-I  (CEMGCOR02T) Section-A | Chemical Kinetics | 08L | SB | 2 weeks |
|  | Physical Chemistry-I Section-A  (CEMGCOR02T) | Liquids | 06L | AB | 2 weeks |
|  | Physical Chemistry-I Section-A  (CEMGCOR02T) | Solids | 06L | SB | 2 weeks |
|  | Inorganic Chemistry-II  Section-B  (CEMGCOR02T) | Chemical Bonding and Molecular Structure | 16L | AD | 3 weeks |
|  | Inorganic Chemistry-II  Section-B  (CEMGCOR02T | Comparative study of p-block elements | 14L | DC | 3 weeks |
|  | Physical Chemistry-I Lab  Section-A  (CEMGCOR02P) | 1. Surface Tension measurement 2. Viscosity Measurement 3. Study of Kinetics | 30L | SB+AB | 5 weeks |
|  | Inorganic Chemistry-II Lab  Section-B  (CEMGCOR02P) | Qualitative semimicro analysis of mixtures containing three radicals | 30L | AD+DC | 5 weeks |

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| Semester | Syllabus  Module/unit | Topic | No of Lectures  (Hours) | Teachers | Distributions |
| 4th Semester  (Honours) | Physical Chemistry-III  (CEMACOR08T)  Application of Thermodynamics-II | 1. Colligative properties 2. Phase rule 3. Binary solutions | 20L | AB+SB | 4 weeks |
|  | Physical Chemistry-III  (CEMACOR08T)  Electrical Properties of molecules | 1. Ionic equilibrium 2. Electromotive Force 3. Dipole moment and polarizability | 20L | AB+SB | 4 weeks |
|  | Physical Chemistry-III  (CEMACOR08T)  Quantum Chemistry | 1. Angular momentum 2. Qualitative treatment of H atom or H like ions 3. LCAO and HF-SCF | 20L | AB+SB | 4 weeks |
|  | Physical Chemistry-III Lab  (CEMACOR08P) | Experiment No- 1,2,3,4,5,6 | 60L | AB+SB | 10 weeks |
|  | Inorganic Chemistry-III  (CEMACOR09T) | General Principles of Metallurgy | 06L | AD | 2 weeks |
|  | Inorganic Chemistry-III  (CEMACOR09T) | Chemistry of S and P block elements   1. Noble Gases 2. Inorganic Polymers | 30L | DC | 5 weeks |
|  | Inorganic Chemistry-III  (CEMACOR09T) | Coordination Chemistry-I | 24L | SB | 5 weeks |
|  | Inorganic Chemistry-III Lab  (CEMACOR09P) | 1. Complexometric titration 2. Inorganic Preparation | 60L | SB+DC | 10 weeks |
|  | Organic Chemistry-IV  (CEMACOR10T) | Nitrogen compounds | 12L | AD | 3 weeks |
|  | Organic Chemistry-IV  (CEMACOR10T) | Rearrangements | 14L | DC | 3 weeks |
|  | Organic Chemistry-IV  (CEMACOR10T) | The Logic of Organic Synthesis | 14L | DC | 3 weeks |
|  | Organic Chemistry-IV  (CEMACOR10T) | Organic Spectroscopy   1. UV 2. IR 3. NMR | 20L | AD | 4 weeks |
|  | Organic Chemistry-IV Lab  (CEMACOR10P) | Quantitative Estimations | 60L | AD+DC | 10 weeks |

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| Semester | Syllabus  Module/Unit | Topic | No of Lectures  (Hours) | Teachers | Distributions |
| 4th Semester  (General) | Physical Chemistry-III  Section-A  (CEMGCOR04T) | Solutions | 06L | SB | 2 weeks |
|  | Physical Chemistry-III  Section-A  (CEMGCOR04T) | Phase Equilibria | 08L | AB | 2 weeks |
|  | Physical Chemistry-III  Section-A  (CEMGCOR04T) | Conductance | 08L | SB | 2 weeks |
|  | Physical Chemistry-III  Section-A  (CEMGCOR04T) | Electromotive force | 08L | AB | 2 weeks |
|  | Analytical and Enviromental Chemistry  Section-B  (CEMGCOR04T) | Chemical Analysis | 15L | AD | 3 weeks |
|  | Analytical and Enviromental Chemistry  Section-B  (CEMGCOR04T) | Enviromental Chemistry | 15L | DC | 3 weeks |
|  | Physical Chemistry Lab  Section-A  (CEMGCOR04P) | 1. Distribution law 2. Phase equilibria 3. Conductance 4. Potentiometry | 30L | AB+SB | 5 weeks |
|  | Analytical and Enviromental Chemistry Lab  Section-B  (CEMGCOR04P) | Analytical and environmental chemistry | 30L | AD+DC | 5 weeks |

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| Semester | Syllabus  Module/Unit | Topic | No of Lectures  (Hours) | Teachers | Distributions |
| 6th Semester  (Honours) | Inorganic Chemistry-V  (CEMACOR13T) | Bioinorganic chemistry | 24L | CP | 5 weeks |
|  | Inorganic Chemistry-V  (CEMACOR13T) | Organometallic Chemistry | 24L | GK | 5 weeks |
|  | Inorganic Chemistry-V  (CEMACOR13T) | Reaction Kinetics and Mechanism | 12L | GK | 3 weeks |
|  | Inorganic Chemistry-V Lab  (CEMACOR13P) | Qualitative semimicro analysis of mixtures containing four mixture | 60L | GK | 10 weeks |
|  | Physical Chemistry- IV  (CEMACOR14T)  Molecular Spectroscopy | 1. Rotational 2. Vibrational 3. Raman 4. NMR 5. ESR | 25L | SB | 5 weeks |
|  | Physical Chemistry- IV  (CEMACOR14T)  Photochemistry | 1. Lambert-Beer law 2. Photochemical Processes 3. Rate of photochemical processes | 15L | SB | 3 weeks |
|  | Physical Chemistry- IV  (CEMACOR14T)  Surface Phenomenon | 1. Surface Tension and energy 2. Adsorption 3. Colloids | 20L | AB | 4 weeks |
|  | Physical Chemistry- IV Lab  (CEMACOR14P) | Experiments no-1,2,3,4,5,6 | 60L | AB+SB | 10 weeks |
|  | Green Chemistry  (CEMADSE04T) | Introduction to Green Chemistry | 04L | DC | 2 weeks |
|  | Green Chemistry  (CEMADSE04T) | Principles of Green chemistry and designing a chemical synthesis | 30L | DC | 5 weeks |
|  | Green Chemistry  (CEMADSE04T) | Examples of Green Synthesis | 16L | DC | 3 weeks |
|  | Green Chemistry  (CEMADSE04T) | Future Trends in Green Chemistry | 10L | DC | 3 weeks |
|  | Green Chemistry Lab  (CEMADSE04P) | 1. Safer starting materials 2. Using renewable resources 3. Avoiding waste 4. Use of enzymes as catalysts 5. Alternative green solvents 6. Alternative sources of energy | 60L | DC+AD | 10 weeks |
|  | Polymer Chemistry  (CEMADSE06T) | Introduction and history of polymeric materials | 04L | SS | 1 weeks |
|  | Polymer Chemistry  (CEMADSE06T) | Functionality and its importance | 08L | SS | 2 weeks |
|  | Polymer Chemistry  (CEMADSE06T) | Kinetics of polymerization | 08L | SB | 2 weeks |
|  | Polymer Chemistry  (CEMADSE06T) | Crystallization and crystallinity | 04L | AD | 1 weeks |
|  | Polymer Chemistry  (CEMADSE06T) | Nature and structure of polymers | 04L | AD | 1 weeks |
|  | Polymer Chemistry  (CEMADSE06T | Determination of molecular weight of polymers | 08L | SB | 2 weeks |
|  | Polymer Chemistry  (CEMADSE06T) | Glass transition temperature (Tg) and determination of Tg | 08L | DC | 2 weeks |
|  | Polymer Chemistry  (CEMADSE06T) | Polymer Solution | 08L | SS | 2 weeks |
|  | Polymer Chemistry  (CEMADSE06T | Properties of polymer | 10L | SS | 2 weeks |
|  | Polymer Chemistry Lab  (CEMADSE06P) | 1.Polymer Chemistry  2. Polymer characterization  3. Polymer Analysis | 60L | DC+AD | 10 weeks |

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| Semester | Syllabus  Module/Unit | Topic | No of lectures  (Hours) | Teacher | Distribution |
| 6th Semester  (General) | Inorganic Chemistry-4  Section-A  (CEMGDSE04T) | Chemistry of 3D metals | 06L | AB | 2 weeks |
|  | Inorganic Chemistry-4  Section-A  (CEMGDSE04T) | Organometallic compounds | 12L | AB | 3 weeks |
|  | Inorganic Chemistry-4  Section-A  (CEMGDSE04T) | Bioinorganic chemistry | 12L | SB | 3 weeks |
|  | Organic Chemistry  Section- B  (CEMGDSE04T) | Polynuclear and heteronuclear aromatic compounds | 06L | AD | 2 weeks |
|  | Organic Chemistry  Section- B  (CEMGDSE04T) | Active methylene compounds | 06L | DC | 2 weeks |
|  | Organic Chemistry  Section- B  (CEMGDSE04T) | Application of Spectroscopy to simple organic molecules | 18L | AD+DC | 4 weeks |
|  | Inorganic Chemistry  Section-A  (CEMGDSE04P) | Seperation of mixtures by chromatography | 30L | AD+ DC | 5 weeks |
|  | Organic Chemistry  Section- B  (CEMGDSE04P) | Systematic qualitative organic analysis of organic compounds | 30L | AD+DC | 5 weeks |