**ACADEMIC CALENDER 2022-2023**

 **(EVEN SEMESTER)**

 CHEMISTRY DEPARTMENT

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| Semester | SyllabusModule/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 | SyllabusModule/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-IISection-B(CEMGCOR02T) | Chemical Bonding and Molecular Structure | 16L | AD | 3 weeks |
|  | Inorganic Chemistry-IISection-B(CEMGCOR02T | Comparative study of p-block elements | 14L | DC | 3 weeks |
|  | Physical Chemistry-I LabSection-A(CEMGCOR02P) | 1. Surface Tension measurement
2. Viscosity Measurement
3. Study of Kinetics
 | 30L | SB+AB | 5 weeks |
|  | Inorganic Chemistry-II LabSection-B(CEMGCOR02P) | Qualitative semimicro analysis of mixtures containing three radicals | 30L | AD+DC | 5 weeks |

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| Semester | SyllabusModule/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 elements1. 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 Spectroscopy1. 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 | SyllabusModule/Unit | Topic | No of Lectures(Hours) | Teachers | Distributions |
| 4th Semester(General) | Physical Chemistry-IIISection-A(CEMGCOR04T) | Solutions | 06L | SB | 2 weeks |
|  | Physical Chemistry-IIISection-A(CEMGCOR04T) | Phase Equilibria | 08L | AB | 2 weeks |
|  | Physical Chemistry-IIISection-A(CEMGCOR04T) | Conductance | 08L | SB | 2 weeks |
|  | Physical Chemistry-IIISection-A(CEMGCOR04T) | Electromotive force | 08L | AB | 2 weeks |
|  | Analytical and Enviromental ChemistrySection-B(CEMGCOR04T) | Chemical Analysis | 15L | AD | 3 weeks |
|  | Analytical and Enviromental ChemistrySection-B(CEMGCOR04T) | Enviromental Chemistry | 15L | DC | 3 weeks |
|  | Physical Chemistry LabSection-A(CEMGCOR04P) | 1. Distribution law
2. Phase equilibria
3. Conductance
4. Potentiometry
 | 30L | AB+SB | 5 weeks |
|  | Analytical and Enviromental Chemistry LabSection-B(CEMGCOR04P) | Analytical and environmental chemistry | 30L | AD+DC | 5 weeks |

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| Semester | SyllabusModule/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 Chemistry2. Polymer characterization3. Polymer Analysis | 60L | DC+AD | 10 weeks |

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