

**PROGRAMME OUTCOME OF B. SC. CHEMISTRY (MAJOR)**

**P01: Core competency**

**P02: Disciplinary knowledge and skill**

**P03: Skilled communicator**

**P04: Critical thinker and problem solver**

**P05: Sense of inquiry**

**P06: Team player**

**P07: Skilled project manager**

**P08: Digitally literate**

**P09: Ethical awareness/reasoning**

**P010: Lifelong learner**

## Discipline Specific Core (DSC)

### CC1: Fundamentals of Chemistry - I

(Credit: Theory -03, Practical – 01)

#### Course learning outcome (COs)

**C01: Extra nuclear structure of atoms and Periodicity**

**C02: Basics of Organic Chemistry Bonding and Physical Properties:**

Valence Bond Theory, Electronic displacement, MO Theory, Physical properties, Stereochemistry

**C03: Thermodynamics, Chemical Kinetics**

**C04: Calibration and use of apparatus, Acid-Base Titrations, Oxidation-Reduction Titrimetry**

#### COs-POs Mapping

### CC1: Fundamentals of Chemistry - I

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
<b>C01</b>	√	√		√	√				√	√
<b>C02</b>	√	√		√	√				√	√
<b>C03</b>	√	√		√	√				√	√
<b>C04</b>	√	√	√	√	√	√			√	√

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## Discipline Specific Core (DSC)

### SEC1: Quantitative Analysis and Basic Laboratory Practices

(Credit: Theory -03, Tutorial – 01)

#### Course learning outcome (COs)

**C01: Introduction to Quantitative analysis and its interdisciplinary nature**

**C02: Titrimetric analysis, Acid-basetitrimetry, Redox titrimetry, Precipitation titrimetry,Complexometric titrimetry, Gravimetric Analysis**

**C03: Water analysis, Water treatment technologies, Basic laboratory practices**

**C04: Tutorial**

#### COs-POs Mapping

### SEC1: Quantitative Analysis and Basic Laboratory Practices

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
C01	√	√		√	√				√	√
C02	√	√		√	√				√	√
C03	√	√		√	√				√	√
C04	√	√	√	√	√		√		√	√

**PROGRAMME OUTCOME OF B. SC. CHEMISTRY (MAJOR) CCF**

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## Discipline Specific Core (DSC)

### CC2: Fundamentals of Chemistry - II

(Credit: Theory -03, Practical - 01)

#### Course learning outcome (COs)

**C01: Kinetic Theory and Gaseous state, Real gas and Virial equation**

**C02: Chemical Bonding – Ionic bond, Covalent bond**

**C03: Stereochemistry, General Treatment of Reaction Mechanism, Reactive intermediates, Reaction thermodynamics, Reaction kinetics, Substitution Reaction**

**C04: Iodo-/ Iodimetric Titrations, Estimation of metal content in some selective samples**

#### COs-POs Mapping

### CC2: Fundamentals of Chemistry - II

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
<b>C01</b>	√	√		√	√				√	√
<b>C02</b>	√	√		√	√				√	√
<b>C03</b>	√	√		√	√				√	√
<b>C04</b>	√	√	√	√	√	√			√	√

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## Discipline Specific Core (DSC)

### SEC2: AI for Everyone

(Credit: Theory -04)

#### Course learning outcome (COs)

**CO1:** Introduction to Artificial Intelligence, Subfields and Technologies

**CO2:** Applications of AI and Ethical and Social Implications of AI

**CO3:** Other Important Issues like AI and Innovation Emerging trends and future directions in AI

#### COs-POs Mapping

### SEC2: AI for Everyone

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	√	√	√	√	√			√		√
CO2	√	√	√		√			√		√
CO3	√	√	√		√		√	√		√



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### **Chemistry MAJOR**

**(Credits: Theory-03, Practicals-01)**

**Paper: CHEM-H-CC3-3-Th /CHEM-H-CC3-3-P**

#### **Physical Chemistry -I**

#### **Course learning outcome (COs):**

After going through the course the student should be able to understand

CO.1. Thermodynamics -II

CO.2. Application of thermodynamics -I

CO.3. Electrochemistry

CO.4. Determination of rate constant of different reactions experimentally

#### **COs-POs Mapping**

Course Code: **CHEM-MD-CC3-3-Th(P)/CHEM-MD-CC3-5-Th (P)**

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
C01	√	√	√	√	√					√
C02	√	√	√	√	√					√
C03	√	√	√	√	√					√
C04	√	√	√	√	√					√

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## Chemistry MAJOR

(Credits:Theory-03,Practicals-01)

Paper: CHEM-H-CC4-3-Th /CHEM-H-CC4-3-P

### Organic Chemistry -I

#### Course learning outcome(COs):

After going through the course the student should be able to understand

CO.1.Aromatic substitution

CO.2.General treatment of reaction mechanism-II

CO.3. Substitution and elimination reactions

CO.4. Chemistry of alkenes and alkynes

CO.5. Identification of pure single organic compound (solid compounds, liquid compounds)

#### COs-POs Mapping

Course Code: CHEM-MD-CC3-3-Th(P)/CHEM-MD-CC3-5-Th (P)

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
C01	√	√	√	√	√					√
C02	√	√	√	√	√					√
C03	√	√	√	√	√					√
C04	√	√	√	√	√					√
C05	√	√	√	√	√					√

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## Interdisciplinary Course (IDC)

### IDC-1 or IDC-2: Quantitative Analysis and Basic Laboratory Practices

(Credit: Theory -03, Tutorial – 01)

#### Course learning outcome (COs)

**CO1: Introduction to Quantitative analysis and its interdisciplinary nature**

**CO2: Titrimetric analysis, Acid-base titrimetry, Redox titrimetry, Precipitation titrimetry, Complexometric titrimetry, Gravimetric Analysis**

**CO3: Water analysis, Water treatment technologies, Basic laboratory practices**

**CO4: Tutorial**

#### COs-POs Mapping

### IDC-1 or IDC-2: Quantitative Analysis and Basic Laboratory Practices

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1		√		√	√					√
CO2		√		√	√					√
CO3		√		√	√				√	√
CO4		√	√	√	√		√			√