## COURSE STRUCTURE FOR P.G. PROGRAMME IN CHEMISTRY AS PER CBCS W.E.F. 2018

### SEMESTER-I

#### 1. Core Courses (CR):

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Contact hours/Week</th>
<th>No. of Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH18101CR</td>
<td>Inorganic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18102CR</td>
<td>Organic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18103CR</td>
<td>Physical Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18104CR</td>
<td>Environmental Chemistry &amp; Analytical Monitoring.</td>
<td>(01L + 01T)</td>
<td>02</td>
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</table>

#### 2. Discipline Centric Electives (DCE):

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CH18105DCE</td>
<td>Laboratory Course in Inorganic Chemistry</td>
<td>04 Lab Sessions of 03 hours each</td>
<td>04</td>
</tr>
<tr>
<td>CH18106DCE</td>
<td>Symmetry &amp; Group Theory</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
<tr>
<td>CH18107DCE</td>
<td>IR, Raman &amp; Electronic Spectroscopy</td>
<td>(01L + 01T)</td>
<td>02</td>
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#### 3. Generic Electives (GE):

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<tr>
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<tbody>
<tr>
<td>CH18001GE</td>
<td>Surfactants and their Applications</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
</tbody>
</table>

#### 4. Open Elective Courses (OE):

<table>
<thead>
<tr>
<th>Course No.</th>
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<tbody>
<tr>
<td>CH18001OE</td>
<td>Chemistry in Everyday Life</td>
<td>(01L + 01T)</td>
<td>02</td>
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### SEMESTER-II

#### 1. Core Courses (CR):

<table>
<thead>
<tr>
<th>Course No.</th>
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<tbody>
<tr>
<td>CH18201CR</td>
<td>Inorganic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18202CR</td>
<td>Organic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18203CR</td>
<td>Physical Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18204CR</td>
<td>Green Chemistry</td>
<td>(01L + 01T)</td>
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#### 2. Discipline Centric Elective (DCE):

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<tbody>
<tr>
<td>CH18205DCE</td>
<td>Laboratory Course in Organic Chemistry</td>
<td>04 Lab Sessions of 03 hours each</td>
<td>04</td>
</tr>
<tr>
<td>CH18206DCE</td>
<td>NMR &amp; ESR Spectroscopy</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
<tr>
<td>CH18207DCE</td>
<td>Solid State Chemistry</td>
<td>(01L + 01T)</td>
<td>02</td>
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#### 3. Generic Elective Courses (GE):

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<tr>
<td>CH18002GE</td>
<td>Metal Ions in Living Systems</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
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</table>

#### 4. Open Elective Course (OE):

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<tbody>
<tr>
<td>CH18002OE</td>
<td>Chemistry of Bio-molecules</td>
<td>(01L + 01T)</td>
<td>02</td>
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<tbody>
<tr>
<td>CH18301CR</td>
<td>Selected Topics in Inorganic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18302CR</td>
<td>Organic Chemistry (Spectroscopy &amp; Photochemistry)</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18303CR</td>
<td>Physical Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18304CR</td>
<td>Non-Equilibrium Thermodynamics</td>
<td>(01L + 01T)</td>
<td>02</td>
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<tr>
<td>CH18305DCE</td>
<td>Laboratory Course in Physical Chemistry</td>
<td>04 Lab Sessions of 03 hours each</td>
<td>04</td>
</tr>
<tr>
<td>CH18306DCE</td>
<td>Chromatographic Techniques</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
<tr>
<td>CH18307DCE</td>
<td>Bio-Physical Chemistry</td>
<td>(01L + 01T)</td>
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3. **Generic Elective (GE):**

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<tr>
<td>CH18003GE</td>
<td>Bio-Organic Chemistry</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
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</table>

4. **Open Elective Course (OE):**

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<tbody>
<tr>
<td>CH18003OE</td>
<td>Philosophy of Science</td>
<td>(01L + 01T)</td>
<td>02</td>
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1. **Core Courses (CR): (INORGANIC SPECIALIZATION):**

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<tbody>
<tr>
<td>CH18401CR</td>
<td>Organo-Transition Metal Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18402CR</td>
<td>Photo Inorganic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18403CR</td>
<td>Bio-Inorganic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18404CR</td>
<td>Seminar in Inorganic Chemistry</td>
<td>Presentation + Manuscript Submission</td>
<td>02</td>
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(ii) **Core Courses (CR): (ORGANIC SPECIALIZATION):**

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<tr>
<td>CH18405CR</td>
<td>Heterocyclic Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18406CR</td>
<td>Chemistry of Natural Products</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18407CR</td>
<td>Bio-Organic and Medicinal Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18408CR</td>
<td>Seminar in Organic Chemistry</td>
<td>Presentation + Manuscript Submission</td>
<td>02</td>
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(iii) **Core Courses (CR): (PHYSICAL SPECIALIZATION):**

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<tbody>
<tr>
<td>CH18409CR</td>
<td>Computational &amp; Advanced Quantum Chemistry</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18410CR</td>
<td>Advanced Electrochemistry and Statistical Mechanics</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18411CR</td>
<td>Soft Matter</td>
<td>(03L + 01T)</td>
<td>04</td>
</tr>
<tr>
<td>CH18412CR</td>
<td>Seminar in Physical Chemistry</td>
<td>Presentation + Manuscript Submission</td>
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<tr>
<td>CH18413DCE</td>
<td>Advanced Laboratory Course in Inorganic Chemistry</td>
<td>04 Lab Sessions of 03 hours each</td>
<td>04</td>
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<tr>
<td>CH18414DCE</td>
<td>Advanced Laboratory Course in Organic Chemistry</td>
<td>04 Lab Sessions of 03 hours each</td>
<td>04</td>
</tr>
<tr>
<td>CH18415DCE</td>
<td>Advanced Laboratory Course in Physical Chemistry</td>
<td>04 Lab Sessions of 03 hours each</td>
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<tr>
<td>CH18416DCE</td>
<td>Supramolecular Chemistry</td>
<td>(01L + 01T)</td>
<td>02</td>
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<tr>
<td>CH18417DCE</td>
<td>Designing Organic Synthesis</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
<tr>
<td>CH18418DCE</td>
<td>Applied Electrochemistry</td>
<td>(01L + 01T)</td>
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<tr>
<td>CH18004GE</td>
<td>Synthetic Polymers and their Applications</td>
<td>(01L + 01T)</td>
<td>02</td>
</tr>
<tr>
<td>CH18005GE</td>
<td>Novel Materials</td>
<td>(01L + 01T)</td>
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<tr>
<td>CH18004OE</td>
<td>Food Chemistry</td>
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