**SEMESTER-I**

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**GE T1: ATOMIC STRUCTURE, CHEMICAL PERIODICITY, ACIDS AND BASES, REDOX REACTIONS, GENERAL ORGANIC CHEMISTRY & ALIPHATIC HYDROCARBONS**

**(Credits: Theory-04, Practicals-02)**

**Theory: 60 Lectures**

***Section A: Inorganic Chemistry-I* (30 Lectures)**

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| **Chapters** | **No. of lectures**  **(30)** | **Marks** | **July-15th Sept** | **Internal Exam**  **3rdWeek of September** | **3rd Week of September- 8th December**  **(including Puja vacations)** | **9th December-15th December** | **End-Sem Exam**  **16th Dec. to**  **24th September** | **End-Sem Break** |
| **Atomic Structure** | 10 | 40 | 10 | 10 |  | Study Leave | Exam | 25th Dec. to 31st Dec. |
| **Chemical Periodicity** | **05** | 06 |  |
| **Acids and bases** | 10 |  | 16 |
| **Redox reactions** | 05 |  |

***Section B: Organic Chemistry-I* (30 Lectures)**

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| **Chapters** | **No. of lectures**  **(30)** | **Marks** | **July-15th Sept** | **Internal Exam**  **3rdWeek of September** | **3rd Week of September- 8th December**  **(including Puja vacations)** | **9th December-15th December** | **End-Sem Exam**  **16th Dec. to**  **24th September** | **End-Sem Break** |
| **Fundamentals of Organic Chemistry** | 05 | 40 | 06 | 10 |  | Study Leave | Exam | 25th Dec. to 31st Dec. |
| **Stereochemistry** | **08** | 08 |  |
| **Nucleophilic Substitution and Elimination Reactions** | 05 |  | 18 |
| **Aliphatic Hydrocarbons** | 12 |  |

GE P1: ATOMIC STRUCTURE, CHEMICAL PERIODICITY, ACIDS AND BASES, REDOX REACTIONS, GENERAL ORGANIC CHEMISTRY & ALIPHATIC HYDROCARBONS LAB

60 Lectures

***Section A: Inorganic Chemistry –LAB (30 Lectures)***

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| **Chapters** | **No. of lectures**  **(30)** | **Marks** | **July-15th Sept** | **Internal Exam**  **3rdWeek of September** | **4th Week of September- 8th December**  **(including Puja vacations)** | **9th December-15th December** | **End-Sem Exam**  **16th Dec. to**  **24th September** | **End-Sem Break** |
| 1. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture. |  | 25 | 04 |  | 02 | Study Leave | Exam | 22nd June-30th June |
| 2. Estimation of oxalic acid by titrating it with KMnO4. |  | 03 |  | 03 |
| 3. Estimation of water of crystallization in Mohr’s salt by titrating with KMnO4.  than two of the above type of functional groups should be done |  | 3 |  | 03 |
| 4. Estimation of Fe (II) ions by titrating it with K2Cr2O7 using internal indicator. | 3 | 03 |
| 5.Estimation of Cu (II) ions iodometrically using Na2S2O3 | 3 | 03 |

***Section B: Organic Chemistry- LAB* (30 Lectures)**

|  |  |  |  |  |  |  |  |  |
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| **Chapters** | **No. of lectures**  **(30)** | **Marks** | **July-15th Sept** | **Internal Exam**  **3rdWeek of September** | **4th Week of September- 8th December**  **(including Puja vacations)** | **9th December-15th December** | **End-Sem Exam**  **16th Dec. to**  **24th September** | **End-Sem Break** |
| 1. Detection of special elements (N, Cl, and S) in organic compounds |  | 25 | 02 |  |  | Study Leave | Exam | 22nd June-30th June |
| 2. Solubility and Classification (solvents: H2O, dil. HCl, dil. NaOH) |  | 02 |  |  |
| 3. Detection of functional groups: Aromatic-NO2, Aromatic -NH2, -COOH, carbonyl (no distinction of –CHO and >C=O needed), -OH (phenolic) in solid organic compounds.  Experiments A - C with unknown (at least 6) solid samples containing not more than two of the above type of functional groups should be done |  | 12 |  | 14 |