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SEMESTER-III

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**GE T3: CHEMICAL ENERGETICS, EQUILIBRIA, ORGANIC CHEMISTRY-II**

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

**Theory: 60 Lectures**

***Section A: Physical Chemistry-II* (30 Lectures)**

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|  **Chapters** | **No. of lectures****(30)** | **Marks** | **July-15th Sept** | **Internal Exam****3rd Week of Sept** | **4th Week of Sept- 8th Dec****(including Puja vacations)** | **9th Dec-15th Dec**  | **End-Sem Exam****16th Dec. to****24th Dec** | **End-Sem Break** |
| **Chemical Energetics**  | **14** | **40** | **10** | **10** | **4** | Study Leave | Exam | 25th Dec. to 31st Dec. |
| **Chemical Equilibrium:**  | **08** | **06** | **2** |
| **Ionic Equilibria:**  | **8** |  | **8** |

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

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|  **Chapters** | **No. of lectures****(30)** | **Marks** | **July-15th Sept** | **Internal Exam****3rd Week of Sept** | **4th Week of Sept- 8th Dec****(including Puja vacations)** | **9th Dec-15th Dec**  | **End-Sem Exam****16th Dec. to****24th Dec** | **End-Sem Break** |
| **Aromatic Hydrocarbons**  | **06** | **40** | **06** | **10** |  | Study Leave | Exam | 25th Dec. to 31st Dec. |
| **Organometallic Compounds**  | **02** | **02** |  |
| **Aryl Halides**  | **03** |  | **3** |
| **Alcohols, Phenols and Ethers**  | **11** | **6** | **5** |
| **Carbonyl Compounds**  | **8** |  | **8** |

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|  **Chapters** | **No. of lectures****(30)** | **Marks** | **July-15th Sept** | **Internal Exam****3rd Week of Sept** | **4th Week of Sept- 8th Dec****(including Puja vacations)** | **9th Dec-15th Dec**  | **End-Sem Exam****16th Dec. to****24th Dec** | **End-Sem Break** |
| (I) Thermochemistry (Any **three**) 1. Determination of heat capacity of calorimeter for different volumes 2. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide 3. Determination of enthalpy of ionization of acetic acid 4. Determination of enthalpy of hydration of copper sulphate .  |  | **25** |    **7** |  |  **8** | Study Leave | Exam | 25th Dec-31st Dec |
| II) Ionic Equilibria (Any **two**) a) Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter and compare it with the indicator method b) Preparation of buffer solutions and find the pH of an unknown buffer solution by colour matching method (using following buffers) (i) Sodium acetate-acetic acid (ii) Ammonium chloride-ammonium hydroxide c) Study of the solubility of benzoic acid in water  |  | **7** |  | **8** |

**GE P3: CHEMICAL ENERGETICS, EQUILIBRIA, ORGANIC CHEMISTRY LAB (60 Lectures)**

***Section A: Physical Chemistry-LAB* (15x2=30 Lectures)**

***Section B: Organic Chemistry-LAB***

**(30 Lectures)**

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|  **Chapters** | **No. of lectures****(30)** | **Marks** | **July-15th Sept** | **Internal Exam****3rd Week of Sept** | **4th Week of Sept- 8th Dec****(including Puja vacations)** | **9th Dec-15th Dec**  | **End-Sem Exam****16th Dec. to****24th Dec** | **End-Sem Break** |
|   **Identification of a pure organic compound** *Solid compounds*: oxalic acid, tartaric acid, succinic acid, resorcinol, urea, glucose, benzoic acid and salicylic acid. .  |  | **25** |  **7** |  |  **8** | Study Leave | Exam | 25th Dec-31st Dec |
| *Liquid Compounds*: methyl alcohol, ethyl alcohol, acetone, aniline, dimethylaniline, benzaldehyde, chloroform and nitrobenzene | **7** | **8** |