**Curriculum Plan (Odd Semester 2025-26)**

**Teacher Name: Dr Rajita**

**Course: BSc (H) Chemistry, Semester 7th**

**Paper Name: Main Group Clusters-Basic and Applications**

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| **S.No.** | **Contents** | **Allocation of Lectures** | **Month wise schedule to be followed** | **Assignments/ Presentations etc** |
| 1 | **Unit 1:** Introduction to molecular clusters - Clusters in elemental states, cluster classification, skeletal electron (Elm) counting. | 7 lectures | 2nd week of August to last week of August | * Syllabus Discussion
* References Books
* Problem Solving
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| 2 | **Unit 2 :** Main-group clusters: Geometric and electronic structure, three-, four- and higher connect clusters, the closo-, nido-, arachno-hypho-, klado-,borane structural paradigm | 8 lectures | 1st week of September to 4th week of September | * Assignment distribution
* Question Solving
* Doubt Session
* Class Test
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| 3 | **Unit 3:** Wade-Mingos and Jemmis electron counting rules, Lipscomb topological diagrams, clusters with nuclearity 4-12 and beyond 12. Structure | 8 lectures | 1st week of October –Last week of October | * Class test
* Result discussion
* Assignment collection
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| 4 | **Unit 4:** Synthesis and reactivity. Heteroboranes, boron-carbides and metal-borides.Illustrative examples from recent literature. | 7 lectures | 1st week of November- Last week of November | * Question Solving
* Doubt Session
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