| Roll No. |  |  |  |  |  |  |  |  |  |  |  |  |
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## Department of Research & Development Mid - Term Examinations - SEPTEMBER 2024

| <b>Odd Semester</b> : Ph.D. Course Work  | Date: 27/09/2024                |
|--|---------------------------------|
| Course Code: CHE 807                     | <b>Time</b> : 10:00am – 11:30am |
| Course Name: Basic Organic Chemistry and | Max Marks: 50                   |
| Polymer Chemistry                        |                                 |
| <b>Department:</b> Chemistry             | Weightage: 25%                  |

## **Instructions:**

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

## Part A

| Answer ALL the Questions. Each question carries 5 marks. 4Q |   |         |  |
|---|---|---------|--|
| 1   | What is free radicals? Explain with some examples.  | 5 Marks |  |
| 2   | Write the preparation method of Wittig reagent.   | 5 Marks |  |
| 3   | Mention the criteria for a molecule to be anti-aromatic   | 5 Marks |  |
| 4   | Write the steps involved in drying of organic solvents toluene, chloroform and Dimethyl sulphoxide. | 5 Marks |  |

## Part B

| Answer ALL Questions. Each question carries 15 marks. 2QX |   |   |          |  |
|---|---|---|----------|--|
|   | 5 | What is hybridization? Explain sp, sp <sup>2</sup> and sp <sup>3</sup> hybridization with suitable examples   | 15 Marks |  |
|   | 6 | Explain the type of hybridization involving in C <sub>2</sub> H <sub>2</sub> and BF <sub>3</sub> molecule and predict the geometry of those molecule. | 15 Marks |  |