

**P.G. Semester-II Examination, 2023****CHEMISTRY**

Course ID : 21464      Course Code : CHEM204C(PR)

Course Title : Inorganic Chemistry (Practical)

Time : 6 Hours

Full Marks : 40

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable and would not be allowed to consult the book / notes / mobile phone while writing the report in answer script.*1. Perform any **one** of the following experiments as assigned :A) Prepare  $\text{Cu}(\text{acac})_2$  complexes using the supplied procedure and mention the followings:

- |   |     |
|---|-----|
| i) Method of preparation                                | 16  |
| ii) Characterization of the complex                     | 3+2 |
| a) Determination the $\lambda_{\text{max}}$ of product. |     |
| b) Determination the molar conductivity of product      |     |
| iii) % of Yield of the product                          | 5   |
| iv) Results and discussion                              | 4   |

**OR**B) Prepare  $\text{Mn}(\text{acac})_3$  complexes using the supplied procedure and mention the following:

- |   |     |
|---|-----|
| i) Method of preparation                                | 16  |
| ii) Characterization of the complex                     | 3+2 |
| a) Determination the $\lambda_{\text{max}}$ of product. |     |
| b) Determination the molar conductivity of product      |     |
| iii) % of Yield of the product                          | 5   |
| iv) Results and discussion                              | 4   |

**OR**C) Prepare  $\text{Al}(\text{acac})_3$  complexes using the supplied procedure and mention the following:

- |   |     |
|---|-----|
| i) Method of preparation                                | 16  |
| ii) Characterization of the complex                     | 3+2 |
| a) Determination the $\lambda_{\text{max}}$ of product. |     |
| b) Determination the molar conductivity of product      |     |
| iii) % of Yield of the product                          | 5   |
| iv) Results and discussion                              | 4   |

**OR**

D) Prepare  $Mn_{12}$  Acetate Single Molecule Magnet using the supplied procedure and mention the followings:

i) Method of preparation 16

ii) Characterization of the complex 3+2

a) Determination the  $\lambda_{max}$  of product.

b) Determination the molar conductivity of product

iii) % of Yield of the product 5

iv) Results and discussion 4

2. Laboratory Notebook 5

3. Viva Voce 5

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