**ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS)**

**VISAKHAPATNAM**

**VIII SEMESTER B.SC HONOURS CHEMISTRY TIME: 2hrs/week**

**Code CH8251(2)**

**Revised syllabus Under CBCS 2020-21 MARKS: 50**

# INORGANIC CHEMISTRY-II: METAL CLUSTERS, ELECTRONIC SPECTRA OF COMPLEX COMPOUNDS AND BIO-INORGANIC CHEMISTRY

## PRACTICAL SYLLABUS

**Course Objective:** To train students in volumetric and gravimetric analytical techniques through various experiments

**Course Outcomes:** On successful completion of this practical course, student shall be able to:

- List out, identify and handle various equipment in Chemistry lab.
- Learn the concepts and procedures of preparation of standard solutions, primary and secondary standards.
- Demonstrate skills in Volumetric and gravimetric determinations.4. Acquire skills in standardizing and determination of different metal ions.
- Understand and explain the volumetric analysis based on fundamental concepts learnt in ionic equillibria.

**Syllabus:**

### Quantitative analysis:

### Volumetric:

1. Determination of Ferric iron by photochemical reduction
2. Determination of Nickel by EDTA
3. Determination of Calcium and Magnesium in a mixture by EDTA
4. Determination of Ferrocyanide by Ceric sulphate
5. Determination of Copper(II) in presence of iron(III)

### Gravimetric:

6. Determination of Zinc as Zinc pyrophosphate
7. Determination of Nickel from a mixture of Copper and Nickel.

**Co-Curricular Activities**

**Mandatory**

1. **For Teacher**: Training of students by the teacher in laboratory and field for not lessthan15 hours on the field techniques/skills of determination of cations by volumetric and gravimetric determinations.

2. **For Students**: Student shall visit are lated industry/ chemistry laboratory in universities/research organizations/private sector facility and observes the synthetic reactions. Write their observations and submit a hand written fieldwork/project workreportnotexceeding10 pages in the given format to the teacher.

3. Max marks for Fieldwork/projectworkReport:05.

4. Suggested Format for Fieldwork/project work**:** Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.

5. Unit tests(IE).

**Reference books:**

Vogel's textbook of quantitative chemical analysis, 5th edition by G.H. Jeffery et al.