

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

**VISAKHAPATNAM**

**VIII SEMESTER B.Sc., HONOURS CHEMISTRY Time: 2hrs/week**

**Code CH8256(2)**

**Revised Syllabus Under CBCS 2020-21**

**Marks: 50**

**Corrosion and its Prevention - Practical Syllabus:**

**I.**

**Course Objective:** To enable students to prepare coatings and pigments and determine the effect of certain physical parameters associated with corrosion

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

- Chalk out a plan to decrease the rate of corrosion.
- Preparation of pigment.
- To study about the Rate of corrosion with respect to Aluminium and Iron plates
- To determine the effect of temperature on rate of corrosion

**II. Practical (Laboratory) Syllabus:**

1. Electroless metallic coatings on ceramic and plastic material.
2. Preparation of pigment (zinc oxide)
3. To determine the rate of corrosion on different metallic plates (Iron, Aluminium) in various Concentrations of HCl.
4. To determine the effect of temperature on rate of corrosion in acidic medium.
5. To determine the rate of corrosion on a metallic plate in acidic medium.
6. To determine the rate of corrosion on an Aluminium plate in basic medium.

**III. References:**

1. Analytical Chemistry by Gary D. Christian 6th edition Wiley publication.
2. Senior Practical Physical Chemistry, B.D. Khosla, V.C. Garg, Adarsh Gulati, R Chand andCo.
3. Applied Chemistry Theory and Practice, O.P. Virani, A.K. Nebula. New Age

International Publishers, 2nd Edition.

4. S.W. Rajbhoj and T. K. Chondhekar, Systematic Experimental Physical Chemistry, Anjali Publication, Second Edition 2000.

5. Sunita Rattan, Experiments in Applied Chemistry, S.K. Kataria & Sons, Second edition, 2008

6. Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).

7. UGC practical manual for experimental analysis.

#### **IV. Co-curricular Activities:**

**a) Mandatory :** (*Lab/field training of students by teacher : (lab: 10+ fields: 05):*)

**1. For Teacher:** Training of students by the teacher in laboratory and field for not less than 15 hours on the field techniques/skills of corrosion formation observations in nature.

**2. For Students:** Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observe corrosion process and its prevention. Write their observations and submit a hand written fieldwork/project work report not exceeding 10 pages in the given format to the teacher. And also observe the semiconductors, insulators used in industry.

**a.** Max marks for Fieldwork/project work Report: 05.

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

C. Unit tests (IE).