SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN (AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
M.Sc. END SEMESTER EXAMINATION APRIL/NOV - 2021
SEMESTER - III
20PCHET3003 - Electrochemistry

Total Duration : 3 Hrs		**Total Marks : 75**	
MCQ	: 30 Mins	MCQ	: 15
Descriptive	: 2 Hrs.30 Mins	Descriptive	: 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Explain Born model of ion solvent interaction.
2. Derive Debye Huckel Onsager equation for the equivalent conductance of electrolyte.
3. Describe Butler-Volmer equation for one electron transfer.
4. Discuss the theories of corrosion.
5. Describe Quinhydrone electrode. What are its merits and demerits?
6. Describe Guoy-Chapmann diffuse model.
7. Define diffusion. Explain Ficks law of diffusion.
8. Explain Pourbaix diagram.

Section C

Part A

Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

9. Describe Bjerrum ion pair theory and Debye Huckel Bjerrum equation.
10. Explain (a) Onsager Phenomelogical equation.
    (b) Stern Model
11. Describe (a) Plancks Henderson equation.
    (b) Methods to prevent corrosion
12. Describe Evans diagram.

Part B

Compulsory question $(1 \times 10 = 10$ Marks)

13. Describe (a) Lead Storage battery
    (b) Sodium sulphur cell.