

I/IV B. TECH. DEGREE EXAMINATIONS, NOV / DEC - 2015**First Semester****BT / CSE / ECE / EEE****ENGINEERING CHEMISTRY - I**

Time : Three Hours**Maximum Marks : 60****Answer Question No. 1 Compulsory.****12x1=12 M****Answer ONE question from each Unit.****4x12=48 M**

1. Answer the following.

- a) What is meant by Hard Water ?
- b) Scale & Sludge formation in boilers.
- c) Units of hardness.
- d) Secondary cells.
- e) Solid state & Molten solvent batteries.
- f) Nanostructured electrode materials.
- g) Effect of pH on Corrosion.
- h) Differential aeration Corrosion.
- i) Galvanic series.
- j) Functionality.
- k) Drawbacks of natural rubber.
- l) Copolymerization.

UNIT - I

2. a) Explain the determination of hardness of water by EDTA method.
- b) Explain softening of water by ion exchange process.

(OR)

3. a) Explain drinking water treatment in detail.
- b) What are the WHO Limits of drinking water.

UNIT - II

4. a) Write a note on fuel cells.
b) What are the scientific prospects of fuel cells ?

(OR)

5. a) Describe Li ion batteries and their working.
b) What are their applications ?

UNIT - III

6. a) Explain the mechanism of dry Corrosion.
b) Write an account on sacrificial anodic method.

(OR)

7. a) What are the Corrosion inhibitors ? Explain the mechanism of inhibition.
b) Write a note on
(i) Galvanic Corrosion.
(ii) Pitting Corrosion.

UNIT - IV

8. a) Explain the preparation and properties of the following
(i) Bakelite.
(ii) PVC.
b) What are conducting polymers ? What are their applications ?

(OR)

9. a) Distinguish between addition & condensation polymerization.
b) Write a note on Buna-S & Buna-N.

