

I/IV B.Tech. (Supple). DEGREE EXAMINATIONS, APRIL/MAY- 2016**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. Hardness of water
 - b. Priming
 - c. Phosphate conditioning
 - d. Reserve batteries
 - e. Primary & secondary cells
 - f. Li-ion batteries
 - g. Pitting corrosion
 - h. Which metal corrodes faster Al or Mo? Why?
 - i. Corrosion inhibitors
 - j. Tacticity
 - k. Conducting polymers
 - l. Bakelite

UNIT-I

2. Explain the following boiler problems
 - a. Caustic embrittlement
 - b. Boiler corrosion

(OR)

3.
 - a. Explain desalination by Reverse osmosis method.
 - b. What is break point chlorination? Explain

UNIT-II

4.
 - a. Write a note on Lithium and carbon based nanomaterials and nanocomposites?
 - b. What are their applications?

(OR)

5. Explain the following
 - a. Hydrogen as future fuel
 - b. Solid oxide fuel cells.

P.T.O

UNIT-III

6. a. What are the types of corrosion inhibitors? Give examples.
- b. What are the factors that effect corrosion.

(OR)

7. a. Explain the mechanism of wet corrosion.
- b. What is impression current method? Explain

UNIT-IV

8. a. Explain the mechanism of free-radical addition polymerization.
- b. Distinguish between thermo plastics and thermosetting plastics.

(OR)

9. a. Write a note on compounding of plastics
- b. Explain processing of latex.



I/IV B. Tech. DEGREE EXAMINATIONS, DECEMBER - 2016**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) Break point chlorination.
- b) Carbonate conditioning.
- c) Ion exchange resins.
- d) Hydrogen as future fuel.
- e) Solid state & Molten solvent batteries.
- f) Carbon based nano composites.
- g) Pitting corrosion.
- h) Galvonic series.
- i) Pilling Bed worth rule.
- j) Tactcity.
- k) Drawbacks of natural rubber.
- l) Preparation of PVC.

UNIT - I

2. Explain the following :

- a) Caustic embrittlement.
- b) Priming & foaming.

(OR)

3. Explain the following :

- a) Disinfection of water.
- b) Phosphate conditioning.

P.T.O.

UNIT - II

4. Discuss the following :

- a) Fuel cells.
- b) Scientific prospects of fuel cells.

(OR)

5. Explain the following :

- a) Primary and Secondary cells.
- b) Nanostructured electrode materials.

UNIT - III

6. a) Explain the mechanism of dry corrosion.

b) What are corrosion inhibitors ? Explain.

(OR)

7. a) Distinguish between electrochemical series and Galvonic series.

b) Explain the factors that influence corrosion.

UNIT - IV

8. Give a note on the following :

- a) Thermoplastics & thermosetting plastics.
- b) Condensation polymerization.

(OR)

9. Discuss the following :

- a) Vulcanization of rubber.
- b) Conducting polymers and mechanism of conduction.

