

2009-ACHARYA NAGARJUNA UNIVERSITY
B.TECH I SEMESTER DEGREE EXAMINATION
CHEMISTRY

FEBRUARY-2009

TIME-3HOUR
MARKS-80

ANSWER ALL QUESTIONS

PART A [10*2=20 MARKS]

- a. Caustic embrittlement
- b. Electro dialysis
- c. Zeolite
- d. Lithium Battery
- e. Silicones
- f. Electrochemical corrosion
- g. Anodic protection
- h. Bathochromic shift
- i. Absorption spectrum
- j. Vibrational spectra

PART B [4*15=60 MARKS]

- 1. a. What are the characteristics of drinking water?
 - b. What are the methods of preventing boiler corrosion.
 - c. Explain the concept and application of conducting polymers.
- (or)
- 2. a. Explain the nature of brackish water and its desalination by reverse Osmosis.
 - b. What are Silicones? Explain their preparation and engineering applications.
- 3. a. Explain the construction of a Calomel electrode with a neat sketch.
 - b. Explain the method of determination of pH using Glass electrode?
 - c. Explain the advantages of Lead-acid cells.
- (or)
- 4. a. Explain the concept of Reference electrode.

b. What are the types of electro chemical energy systems? Give examples.

c. Explain conductivity, conductometric titrations and their importance.

5. a. Explain the concept of corrosion and causes for corrosion.

b. Explain various electrolytic methods of preventing corrosion.

(or)

6. a. Explain different types of corrosion and effect of pH and temperature on corrosion.

b. What is the corrosion that occur due to dissimilar metals. Explain the concept of corrosion inhibitors, their types and mechanism.

7. a. Explain the instrumentation and application of UV- visible spectroscopy?

b. How do you distinguish benzene, acetone and ethyl alcohol using IR spectra?

(or)

8.a. How do you determine the molecular weight and dissociation constants using uv-visible spectroscopy.

b. Explain the instrumentation and application of Infrared spectroscopy?

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