

Code No.: CH102BS

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CMR ENGINEERING COLLEGE: : HYDERABAD

UGC AUTONOMOUS

I-B.TECH-I-Semester End Examinations (Regular) - March- 2023

ENGINEERING CHEMISTRY

(Common for ECE, CSE, IT)

[Time: 3 Hours]

[Max. Marks: 60]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 10 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(10 Marks)

1. a) Define potable water. [1M]
- b) Differentiate between scales and sludges. [1M]
- c) What is calorific value? Write its significance. [1M]
- d) What is transesterification? [1M]
- e) Define electrode potential. [1M]
- f) List any two applications of solar cells. [1M]
- g) Recall any two effects of corrosion. [1M]
- h) Define electroplating. [1M]
- i) Give an example of biodegradable polymers. [1M]
- j) List any two engineering applications of smart materials. [1M]

PART-B

(50 Marks)

2. Describe the estimation of hardness of water by EDTA method. [10M]
- OR**
3. Explain the desalination of brackish water by electro dialysis. [10M]
4. Discuss the ultimate analysis of coal and write its significance. [10M]
- OR**
- 5.a) Calculate the gross and net calorific values of a coal sample containing 85% carbon, 1% sulphur, 2% nitrogen and ash 4%. [3 M]
- b) Illustrate moving bed catalytic cracking. [7 M]
6. Explain the construction, working and determination of pH by calomel electrode. [10M]
- OR**
7. Describe the construction, working of lead acid storage battery. [10M]
8. Interpret any two types of corrosion of your choice. [10M]
- OR**
9. Discuss electrochemical corrosion. [10M]
10. Illustrate the mechanism of free radical addition polymerisation. [10M]
- OR**
11. Discuss the characteristics, classification and applications of conducting polymers. [10M]
