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III B.Tech (Regular/Supplementary) DEGREE EXAMINATION

August, 2023

Second Semester

Time: Three Hours

Electronics and Electronics Engineering

Engineering Chemistry

Maximum: 70 Marks

Answer question 1 compulsory.

(1X1 = 14Marks)

Answer one question from each unit.

(4X) 4=56 Marks)

CO	BL	M
CO1	L1	1
CO1	L2	1
CO1	L1	1
CO2	L1	1
CO2	L3	1
CO2	L2	1
CO2	L1	1
CO3	L1	1
CO5	L1	1
CO3	L1	1
CO3	L1	1
CO4	L2	1
CO4	L1	1
CO4	L1	1

- Describe the regeneration of exhausted ion-exchange resin.
  - List out the hardness causing salts
  - List out of two examples for coagulants
  - Define cell potential
  - Define higher calorific value (HCV)
  - Explain Pilling-Bedworth rule?
  - What is the formula of rusting of iron?
  - What is fuel?
  - Illustrate the examples of the anti-knocking agents
  - What are the major constituents in LPG?
  - Name the apparatus used for the analysis of the gas
  - Summarize the applications of PVC
  - Define plastic?
  - Describe conducting polymers? Give examples

Unit-I

- Explain the method of determination of Hardness of water by EDTA.
  - Define scales? Describe a note on formation, disadvantages, and removal methods.
- Discuss the ion-exchange process with neat labeled diagram and equations
  - Define desalination? Explain the process of desalination using Reverse osmosis method

(OR)

CO1	L3	7M
CO1	L2	7M
CO1	L3	7M
CO1	L2	7M

Unit-II

- Discuss electrochemical corrosion? Describe the mechanism of evolution of hydrogen type and absorption of oxygen type
  - Summarize i) Differential aeration corrosion ii) stress corrosion

(OR)

- Derive Nernst equation for single electrode potential. Outline applications.
  - Discuss the electro plating of gold

Unit-III

- Explain the classification of fuels
  - Summarize i) octane number ii) cetane number
- Describe the refining of petroleum and mention uses of various fractions
  - Write a short note on CNG.

Unit-IV

- What are conducting polymers and various applications of conducting polymers in different fields
  - Generate the method of synthesis, properties and applications of "Aspirin"
- Compare thermoplastic with thermosetting polymers
  - Define polymer? Explain the preparation and applications. Bakelite

(OR)

CO2	L3	7M
CO2	L2	7M
CO3	L1	7M
CO3	L2	7M
CO3	L2	7M
CO3	L1	7M
CO3	L1	7M
CO4	L1	7M
CO4	L3	7M
CO4	L1	7M
CO4	L2	7M