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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations March-2021

APPLIED CHEMISTRY

(Common to CSE & CSIT)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Calculate the single electrode potential of zinc in 0.05M ZnSO₄ solution at 25 °C. 6M
 $E_{0 \text{ Zn/Zn}^{2+}} = 0.763\text{V}$.
- b What is primary Battery? Write a brief note on Zinc-Air battery 6M

OR

- 2 a Write a brief note on potentiometric sensor. 4M
- b Define Photovoltaic cell. Explain construction, working and applications of photovoltaic cell. 8M

UNIT-II

- 3 a Write De-Broglie's equation. 5M
- b Derive Schrodinger wave equation? Explain the significance of the Ψ and Ψ^2 . 7M

OR

- 4 a What is Crystal field theory? Explain the crystal field splitting in octahedral Complexes. 8M
- b Explain Planck's Quantum Theory. 4M

UNIT-III

- 5 a Write the preparation, properties and application of Buna-S rubber and Buna-N rubber. 7M
- b Describe the preparation, properties and uses of Carbon Fibers. 5M

OR

- 6 a Explain the mechanism of Free radical addition polymerization. 6M
- b Distinguish between Thermoplastics and thermosetting plastics. 6M

UNIT-IV

- 7 a Write a note on atomic absorption and molecular absorption. 5M
- b Explain the working principle of Atomic Absorption Spectrometer (AAS). 7M

OR

- 8 a Write a short note on Potentiometry 4M
- b Explain principle & instrumentation of UV-visible spectroscopy with neat diagram. 8M

UNIT-V

- 9 a Discuss about Super conductors and their applications? 8M
- b Write a note on Liquid Insulating Materials. 4M

OR

- 10 a Write a brief note on Fullerenes. 4M
- b How do you apply Catalyst medical in the application of supramolecules? 8M

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