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

B.Tech I Year I Semester Regular Examinations January 2020

APPLIED CHEMISTRY
(Common to EEE & ECE)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 a Derive the Nernst equation for a single electrode potential. 8M
b What are the applications of Nernst equation? 4M

OR

- 2 a What is primary Battery? Write a brief note on Zinc-Air battery. 7M
b Write a note on Lithium Ion rechargeable cell. 5M

UNIT-II

- 3 a What is doping? Explain the role of doping on band structures. 6M
b Explain Heisenberg Uncertainty principle. 6M

OR

- 4 a Derive Schrodinger wave equation. 8M
b Explain the application of Ψ and Ψ^2 to hydrogen atom. 4M

UNIT-III

- 5 a Write the preparation, properties and uses of Phenol-Formaldehyde resin. 6M
b Explain the mechanism of free anion addition polymerization with examples. 6M

OR

- 6 a Explain the mechanism of Ziegler-Natta polymerization. 5M
b Describe the preparation, properties and uses of Bakelite. 7M

UNIT-IV

- 7 a Explain the working principle of Atomic Absorption Spectrometer (AAS). 6M
b Explain stretching and bending vibrations in infrared region. 6M

OR

- 8 a Write a note on atomic absorption and molecular absorption. 6M
b Write a note on Conductometry. 6M

UNIT-V

- 9 a Write a brief note on Fullerenes and their applications. 5M
b Explain in detail about principle and application of semiconductors. 7M

OR

- 10 a Discuss about Super conductors and their applications. 8M
b What is meant by Nanomaterials? How is Nanomaterials Classified? 4M

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