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

B.Tech I Year I Semester Regular & Supplementary Examinations May-2022

APPLIED CHEMISTRY

(Common to EEE & ECE)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 Draw the neat sketch of electrochemical sensor; explain its construction, working principle and applications. L3 12M

OR

- 2 a Write a note on Lithium-Ion rechargeable cell. L2 6M
b Write a note on Hydrogen-Oxygen fuel cell. L2 6M

UNIT-II

- 3 a Write short note on Wave-Particle duality of an electron. L2 6M
b Explain pi- molecular orbital of Benzene with a neat sketch. L3 6M

OR

- 4 What is Crystal field theory? Explain the crystal field splitting in octahedral and tetrahedral Complexes. L3 12M

UNIT-III

- 5 a Distinguish between Thermoplastics and Thermosetting plastics. L4 6M
b Describe the preparation, properties and uses of Nylon-6, 6. L3 6M

OR

- 6 What are conducting polymers? How are they classified? Write the synthesis and engineering applications of poly acetylene and polyaniline polymers. L3 12M

UNIT-IV

- 7 Give an account on principle and instrumentation of IR spectroscopy. Explain stretching and bending vibrations. L2 12M

OR

- 8 a Write a note on atomic absorption and molecular absorption. L1 6M
b Describe the main parts of High-Performance Liquid Chromatography (HPLC). L2 6M

UNIT-V

- 9 Discuss about Super conductors and their applications. L3 12M

OR

- 10 a What is meant by Nanomaterials? How is Nanomaterials Classified? L3 4M
b Write a note on Carbon Nano Tubes and Fullerenes. L1 8M

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