

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

B.Tech I Year II Semester Regular & Supplementary Examinations August-2023

APPLIED CHEMISTRY

(Common to CAD, CSIT, CAI, CIC, CSE, CCC & CSM)

Time: 3 Hours

Max. Marks: 60

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

UNIT-I

- | | | | | | |
|---|---|---|-----|----|----|
| 1 | a | Explain the conductometric titration of Strong acid with weak base. | CO1 | L3 | 6M |
| | b | Explain the conductometric titration of Weak acid with strong base. | CO1 | L3 | 6M |

OR

- | | | | | | |
|---|---|--|-----|----|----|
| 2 | a | Write a note on Lithium Ion rechargeable cell. | CO1 | L2 | 7M |
| | b | What is Electrochemical cell ? Explain with example. | CO1 | L2 | 5M |

UNIT-II

- | | | | | | |
|---|---|---|-----|----|----|
| 3 | a | Explain Planck's Quantum Theory. | CO2 | L2 | 6M |
| | b | Write short note on Wave-Particle duality of an electron. | CO2 | L2 | 6M |

OR

- | | | | | | |
|---|---|--|-----|----|-----|
| 4 | a | Draw the molecular orbital diagrams of Oxygen molecule (O ₂) and Nitrogen molecule(N ₂). Explain their magnetic nature and bond order. | CO2 | L3 | 12M |
|---|---|--|-----|----|-----|

UNIT-III

- | | | | | | |
|---|---|--|-----|----|----|
| 5 | a | Distinguish between Thermoplastics and Thermosetting plastics. | CO3 | L4 | 6M |
| | b | Describe the preparation, properties and uses of Bakelite. | CO3 | L3 | 6M |

OR

- | | | | | | |
|---|---|---|-----|----|----|
| 6 | a | Describe the preparation, properties and uses of Nylon-6,6. | CO3 | L3 | 6M |
| | b | Write the preparation, properties and application of Buna-S rubber. | CO3 | L2 | 6M |

UNIT-IV

- | | | | | | |
|---|---|--|-----|----|-----|
| 7 | a | Give an account on principle and instrumentation of IR. Spectroscopy. Explain stretching and bending vibrations. | CO4 | L2 | 12M |
|---|---|--|-----|----|-----|

OR

- | | | | | | |
|---|---|---|-----|----|----|
| 8 | a | Write a short note on Beer-Lambert's Law. | CO4 | L1 | 5M |
| | b | Write a note on atomic absorption and molecular absorption. | CO4 | L1 | 7M |

UNIT-V

- | | | | | | |
|---|---|--|-----|----|----|
| 9 | a | What is basic lock and key principle? | CO5 | L1 | 6M |
| | b | Write a short note on Complementarity. | CO5 | L1 | 6M |

OR

- | | | | | | |
|----|---|--|-----|----|----|
| 10 | a | Write an account on Carbon Nano Tubes. | CO5 | L1 | 6M |
| | b | Write a note on Fullerenes. | CO5 | L1 | 6M |

*** END ***

