

Reg. No:

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

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

APPLIED CHEMISTRY

(Common for EEE & ECE)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

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|---|--|-----|----|----|
| 1 | a Define Fuel cell? Describe the Construction and Working principle and uses of Methanol – Oxygen Fuel cell. | CO1 | L1 | 6M |
| | b Write a note on Lithium-Ion rechargeable cell. | CO1 | L2 | 6M |

OR

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|---|--|-----|----|----|
| 2 | a Discuss the titration curves obtained in Strong acid with Weak base conductometric titrations. | CO1 | L3 | 6M |
| | b Explain about Potentiometric redox titrations. | CO1 | L2 | 6M |

UNIT-II

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|---|--|-----|----|----|
| 3 | a Write the postulates of molecular orbital theory. | CO2 | L2 | 6M |
| | b Discuss the Molecular Orbital Energy Diagram for F ₂ molecule and calculate its bond order. | CO2 | L2 | 6M |

OR

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|---|---|-----|----|----|
| 4 | a Explain colour properties of transition metal complexes. | CO2 | L2 | 6M |
| | b Explain the crystal field splitting in Tetrahedral complexes. | CO2 | L3 | 6M |

UNIT-III

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|---|--|-----|----|----|
| 5 | a Explain the free radical addition polymerization. | CO3 | L2 | 6M |
| | b Distinguish between Thermoplastics and Thermosetting plastics. | CO3 | L4 | 6M |

OR

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|---|---|-----|----|----|
| 6 | a Write the preparation, properties and application of Buna-S rubber and Buna-N rubber. | CO3 | L2 | 8M |
| | b What are conducting polymers? How are they classified? | CO3 | L1 | 4M |

UNIT-IV

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|---|---|-----|----|----|
| 7 | a Explain the principle, working and applications of Thin Layer Chromatography (TLC). | CO4 | L2 | 6M |
| | b Write the applications of IR spectroscopy. | CO4 | L2 | 6M |

OR

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|---|---|-----|----|----|
| 8 | a Explain principle & instrumentation of UV-visible spectroscopy with neat diagram. | CO4 | L2 | 9M |
| | b Mention any six applications of UV-Visible spectroscopy. | CO4 | L2 | 3M |

UNIT-V

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|---|---|-----|----|----|
| 9 | a What is meant by Nano materials? How the Nano materials Classified. | CO5 | L1 | 6M |
| | b Write a short notes on Carbon Nano Tubes. | CO5 | L1 | 6M |

OR

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|----|---|-----|----|-----|
| 10 | a Discuss about the principle and application of Super conductors and their applications. | CO5 | L1 | 10M |
| | b Define Super conductors. | CO5 | L1 | 2M |

*** END ***

