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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**B.Tech I Year II Semester Supplementary Examinations Dec 2019****CHEMISTRY****(Common to CE, AGE, ME & EEE)**

Time: 3 hours

Max. Marks: 60

PART-A(Answer all the Questions **5 x 2 = 10** Marks)

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| 1 | a Write schrodinger wave equation. | 2M |
| | b What is meant by Anodic inhibitors? | 2M |
| | c Define sludges and scales. | 2M |
| | d Name four substances that are added during moulding of plastics. | 2M |
| | e What are chromophores? What are auxochromes? Give some examples. | 2M |

PART-B(Answer all Five Units **5 x 10 = 50** Marks)**UNIT-I**

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| 2 | a Explain Effective nuclear charge & its calculation using slaters rule. Give any molecule calculations of EFNC. | 5M |
| | b Give these molecules energy level diagram and explain its magnetic behavior of NO and CO. | 5M |

OR

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| 3 | a Explain the crystal field splitting of orbital's in octahedral and tetrahedral fields in complexes | 5M |
| | b Write down the Schrodinger wave equation for the wave mechanical model of an atom. | 5M |

UNIT-II

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| 4 | a Derive Nernst equation for the calculation of cell emf. | 5M |
| | b Discuss about Impressed Current Cathodic protection. | 5M |

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| 5 | a Explain any four factors influencing the rate of corrosion. | 5M |
| | b Explain electroplating of Nickel and copper? | 5M |

UNIT-III

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| 6 | a Write short notes on Break point Chlorination. | 5M |
| | b Describe the Permutit process for softening of water. | 5M |

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| 7 | a Describe the Ion exchange process for demineralization of water | 6M |
| | b Explain Boiler corrosion with examples. | 4M |

UNIT-IV

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| 8 | a Distinguish between thermoplastics &thermosetting plastics. | 6M |
| | b Write the preparation, properties & uses of Bakelite. | 4M |

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| 9 | a Give the preparation, properties & uses of Teflon, Nylon 6, 6. | 5M |
| | b Explain the addition and elimination reactions with examples | 5M |

UNIT-V

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| 10 | a Give applications of (a) IR-Spectroscopy (b) UV- visible Spectroscopy | 5M |
| | b Explain principle, instrumentation and its applications of Fluorescence spectroscopy | 5M |

OR

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| 11 | a Give an account on principle and instrumentation of IR spectroscopy. | 5M |
| | b Explain principle and instrumentation of UV-visible spectroscopy | 5M |

END