

Reg. No: SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations July-2021

CHEMISTRY

(Common to CE, EEE, ME & AGE)

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 corrosion? | 2M |
| | c | Define hard water and soft water. | 2M |
| | d | Define conducting polymers. | 2M |
| | e | What is finger print region? Mention its importance. | 2M |

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

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|---|---|--|----|
| 2 | a | Illustrate the postulates of crystal field theory. | 2M |
| | b | Explain the crystal field splitting of orbital's in octahedral, tetrahedral and square planar fields in complexes. | 8M |

OR

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| 3 | | Write down the Schrodinger wave equation for the wave mechanical model of an atom. Give the significance of wave function. | 10M |
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UNIT-II

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| 4 | a | Write a note on Redox titration by potentiometry. | 5M |
| | b | Define and derive Gibbs Free energy. | 5M |

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| 5 | | Discuss in detail about electrochemical or wet corrosion. | 10M |
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UNIT-III

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| 6 | | Describe the estimation of hardness by EDTA method. | 10M |
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| 7 | | Describe the Zeolite or permutit process for softening of water. What are the advantages and disadvantages of zeolite process? | 10M |
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UNIT-IV

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| 8 | a | Write the preparation, properties & uses of Bakelite. | 6M |
| | b | Write a note on thermosetting and thermoplastic resins. | 4M |

OR

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| 9 | a | Define addition and Elimination reactions. | 2M |
| | b | Explain the addition and elimination reactions with examples. | 8M |

UNIT-V

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| 10 | | Explain principle and instrumentation of UV-visible spectroscopy. | 10M |
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OR

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| 11 | | Explain principle, instrumentation and its applications of Scanning Electron microscopy (SEM). | 10M |
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END