Q.P. Code: 18HS0801 **R18**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Supplementary Examinations Nov/Dec 2019

CHEMISTRY

(Common to ECE, CSE & CSIT)

Time: 3 hours Max. Marks: 60

PART-A

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

1	**a**	Write schrodinger wave equation.	**2M**
	b	What is meant by Anodic inhibitors?	**2M**
	c	Define sludge's 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

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 & CO.	**5M**
		OR	
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

4	**a**	Derive Nernst equation for the calculation of cell emf.	**5M**
	b	Discuss about Impressed Current Cathodic protection.	**5M**
		OR	
5	**a**	Explain any four factors influencing the rate of corrosion.	**5M**
	b	Explain electroplating of Nickel and copper?	**5M**

UNIT-III

6	**a**	Write short notes on Break point Chlorination.	**5M**
	b	Describe the Permutit process for softening of water.	**5M**
		OR	
7	**a**	Describe the Ion exchange process for demineralization of water.	**6M**
	b	Explain Boiler corrosion with examples.	**4M**

UNIT-IV

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

10	**a**	Give applications of (i) IR-Spectroscopy. (ii) UV- visible Spectroscopy.	**5M**
	b	Explain principle, instrumentation and its applications of Fluorescence spectroscopy.	**5M**
		OR	
11	**a**	Give an account on principle and instrumentation of IR spectroscopy.	**5M**
	b	Explain principle and instrumentation of UV-visible spectroscopy.	**5M**

END