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

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Supplementary Examinations November 2020

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**	Define aromaticity and non-aromaticity.	**2M**
	b	What is meant by corrosion?	**2M**
	c	Which salts caused to temporary and permanent hardness.	**2M**
	d	Why cannot thermosetting plastics be reused and restored?	**2M**
	e	What is finger print region? Mention its importance.	**2M**

PART-B

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

UNIT-I

2	**a**	Explain the Pi - molecular orbitals of butadiene.	**5M**
	b	Explain HSAB concept and its applications.	**5M**
		OR	
3	**a**	Write down the Schrodinger wave equation for the wave mechanical model of an atom.	**5M**
	b	Explain the energy level diagrams of fluorine with magnetic behavior.	**5M**

UNIT-II

4	**a**	Write a note on sacrificial anodic protection?	**5M**
	b	What is meant by cathodic and anodic inhibitors	**5M**
		OR	
5	**a**	Discuss in detail about dry corrosion.	**5M**
	b	Write a note on solubility product.	**5M**

UNIT-III

6	**a**	How water gets hardness. Distinguish between hard water and soft water?	**5M**
	b	Write short notes on Electrodialysis.	**5M**
		OR	
7	**a**	Describe the Lime soda process for softening of water?	**6M**
	b	Explain sludge and Scale formation in boilers?	**4M**

UNIT-IV

8	**a**	Explain the synthesis of the following i) Paracetamol. ii) Aspirin.	**6M**
	b	Write a note on thermosetting and thermoplastic resins.	**4M**
		OR	
9	**a**	What are conducting polymers? How are they classified and give examples?	**5M**
	b	Explain different types of substitution reactions with examples.	**5M**

UNIT-V

10	**a**	Derive Lambert's law?	**5M**
	b	Explain the working principle of atomic absorption spectrometer.	**5M**
		OR	
11	**a**	Give any three applications of each (i) IR-Spectroscopy (ii) UV- visible Spectroscopy	**5M**
	b	Explain stretching and bending vibrations in IR spectroscopy.	**5M**

*****END*****