Q.P. Code: (19HS0801) **R19**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year II Semester Regular Examinations October-2020

APPLIED CHEMISTRY

(Common to CSE & CSIT)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	**a**	What is Electrochemical cell? Give an example.	**6M**
	b	Write a brief note on potentiometric sensor.	**6M**
		OR	
2	**a**	What is a Fuel cell? Describe the Construction and Working of Methanol–Oxygen Fuel cell.	**8M**
	b	Write a short note on Alkali metal sulphide batteries.	**4M**
		UNIT-II	
3	**a**	Explain the energy level diagrams of CO and NO molecule. Explain their magnetic nature and Bond order.	**8M**
	b	Write the postulates of molecular orbital theory.	**4M**
		OR	
4	**a**	Explain the application of Ψ and Ψ^2 to hydrogen atom.	**6M**
	b	Explain pi- molecular orbital's of Butadiene with a neat sketch.	**6M**
		UNIT-III	
5	**a**	Distinguish between Thermoplastics and thermosetting plastics.	**6M**
	b	Explain the mechanism of cationic addition polymerization.	**6M**
		OR	
6	**a**	Describe the preparation, properties and uses of Nylon-6, 6.	**5M**
	b	Write the preparation, properties and uses of Phenol-Formaldehyde resin.	**7M**
		UNIT-IV	
7	**a**	Give an account on principle and instrumentation of IR spectroscopy.	**7M**
	b	Write a short note on Beer-Lambert's Law.	**5M**
		OR	
8	**a**	What is meant by Chromatography?	**4M**
	b	Explain the principle and instrumentation of Gas Chromatography.	**8M**
		UNIT-V	
9	**a**	Explain in detail about principle and application of semiconductors.	**8M**
	b	What is basic lock and key principle?	**4M**
		OR	
10	**a**	What is meant by Nanomaterials? How is Nanomaterials Classified?	**5M**
	b	Define Dielectrics. What are the characteristics of Electrical Insulators?	**7M**

*** END ***