Q.P. Code: 20HS0804 **R20**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Regular & Supplementary Examinations March-2023

ENGINEERING CHEMISTRY

(Mechanical Engineering)

Time: 3 hours Max. Marks: 60

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

		UNIT-I			
1	a	Explain about demineralization of brackish water by Reverse Osmosis.	CO1	L2	6M
	b	Write the specifications of Potable water.	CO1	L2	6M
		OR			
2	a	What is meant by hardness?	CO1	L1	2M
	b	Describe the estimation of hardness by EDTA method.	CO1	L2	10M
		UNIT-II			
3	a	Define Electrode Potential.	CO2	L1	2M
	b	Derive the Nernst equation for a single electrode potential and write its applications.	CO2	L3	10M
		OR			
4	a	What is a Fuel cell?	CO2	L1	2M
	b	Describe the Construction and Working of Hydrogen– Oxygen Fuel Cell.	CO2	L2	10M
		UNIT-III			
5	a	Distinguish between Thermoplastics and Thermosetting plastics.	CO3	L2	6M
	b	Describe the preparation, properties and uses of Bakelite.	CO3	L2	6M
		OR			
6	a	Define refining of petroleum.	CO3	L2	2M
	b	Describe the fractional distillation of petroleum.	CO3	L2	10M
		UNIT-IV			
7	a	Define Refractories. Give the classification of Refractories with examples.	CO4	L1	6M
	b	Write short note on the following properties of Refractories. (i) Refractoriness (ii) Refractoriness Under Load(iii) Thermal Spalling	CO4	L2	6M
		OR			
8		Write short note on following mechanism.	CO4	L2	6M
		a) Hydrodynamic Lubrication	CO4	L2	6M
		b) Thick Film Lubrication			
		UNIT-V			
9	a	What are colloids? Classify the colloids based on the physical state.	CO5	L1	6M
	b	Write a note on Micelle formation.	CO5	L2	6M
		OR			
10		Give an account of chemical and electrochemical methods of preparation of nanometals.	CO5	L2	12M

*** END ***