Q.P. Code: 20HS0802 **R20**

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Regular Examinations July-2021

APPLIED CHEMISTRY

(Common to EEE & ECE)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	a	Write a note on Hydrogen-Oxygen fuel cell.	L2	**6M**
	b	What is secondary Battery? Explain the Construction and working of Lead acid battery.	L3	**6M**
		OR		
2	a	What is a Fuel cell? Describe the Construction and Working of Methanol – Oxygen Fuel cell.	L3	**6M**
	b	Discuss the titration curves obtained in conductometric titrations of Strong acid with weak base.	L3	**6M**
		UNIT-II		
3	a	Write De-Broglie's equation.	L1	**6M**
	b	What are the differences between bonding and antibonding molecular orbitals?	L4	**6M**
		OR		
4	a	Construct the molecular orbital energy level diagram of O_2^+ , O_2^-	L3	**6M**
	b	Write short note on Wave-Particle duality of an electron.	L2	**6M**
		UNIT-III		
5	a	Explain the following mechanism of Cationic addition polymerization.	L3	**6M**
	b	Describe the preparation, properties and uses of Bakelite.	L3	**6M**
		OR		
6	a	What are conducting polymers? How are they classified?	L3	**6M**
	b	Describe the preparation, properties and uses of Carbon Fibers.	L3	**6M**
		UNIT-IV		
7	a	Distinguish between gas chromatography and High Performance Liquid Chromatography.	L4	**6M**
	b	Explain the main components of gas chromatography.	L2	**6M**
		OR		
8	a	Give an account on principle and instrumentation of IR spectroscopy.	L2	**8M**
	b	Write any four applications of IR spectroscopy.	L1	**4M**
		UNIT-V		
9	a	Write a short note on Complementarity.	L1	**6M**
	b	Write the Properties of Nanomaterials.	L1	**6M**
		OR		
10	a	What is basic lock and key principle?	L1	**6M**
	b	Write an account on Carbon Nano Tubes.	L1	**6M**

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