



DEPARTMENT OF CHEMISTRY

SUBJECT	ENGINEERING CHEMISTRY	SUBJECT CODE	21CHE12
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COURSE OUTCOME

- C01: Discuss the electrochemical energy systems such as electrodes and batteries.
- C02: Explain the fundamental concepts of corrosion, its control and surface modification methods namely electroplating and electro less plating
- C03: Enumerate the importance, synthesis and applications of polymers. Understand properties and application of Nanomaterials.
- C04: Describe the principles of green chemistry, understand properties and application alternative fuels.
- C05: Illustrate the fundamental principles of water chemistry, applications of volumetric and analytical instrumentation.

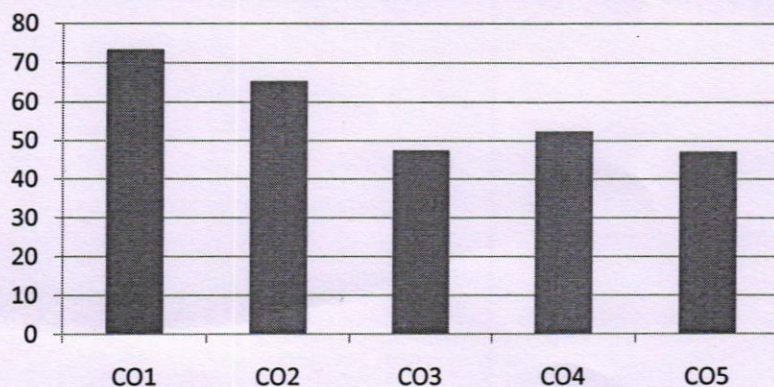
PROGRAM OUTCOMES

- P01** Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- P02** Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- P03** Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- P04** Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- P05** Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities.
- P06** The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- P07** Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- P08** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- P09** Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- P010** Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- P011** Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- P012** Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

NAM. OF THE COLLEGE		SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY, TUMAKURU										
FACULTY NAME		Dr. CHANDRASEKHAR. N & Ms. MANAS N										
BRANCH		EC/IS/AIDS			ACADEMIC YEAR				2021-22			
COURSE	B.E	SEMESTER			I	SECTION			C & D			
SUBJECT	ENGINEERING CHEMISTRY					SUBJECT CODE			21CHE12			
CO & PO MAPPING												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1	1	-	2	3	1	1	1	1	2
CO2	3	2	1	2	-	1	1	1	1	1	-	2
CO3	3	2	1	1	1	2	2	1	1	1	1	2
CO4	3	1	1	1	-	2	3	1	1	1	1	2
CO5	3	1	1	1	1	2	2	1	1	1	1	2
AVERAGE	3	1.4	1	1.2	1	1.8	2.2	1	1	1	1	2
OVERALL MAPPING OF SUBJECT												1.52

CO AND PO ATTAINMENT

	CO%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	73.45	2.2	0.73	0.73	0.73	-	1.47	2.2	0.73	0.73	0.73	0.73	1.47
CO2	65.41	1.96	1.31	0.65	1.31	-	0.65	0.65	0.65	0.65	0.65	-	1.31
CO3	47.59	1.43	0.95	0.48	0.48	0.48	0.95	0.95	0.48	0.48	0.48	0.48	0.95
CO4	52.53	1.58	0.53	0.53	0.53	-	1.05	1.58	0.53	0.53	0.53	0.53	1.05
CO5	47.26	1.42	0.47	0.47	0.47	0.47	0.95	0.95	0.47	0.47	0.47	0.47	0.95
AVERAGE	57.25	1.718	0.798	0.572	0.704	0.48	1.014	1.266	0.572	0.572	0.572	0.55	1.146
FINAL ATTAINMENT LEVEL													0.83



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SIET., TUMAKURU.

**DEPARTMENT OF CHEMISTRY**

SUBJECT	ENGINEERING CHEMISTRY	CODE	21CHE22
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COURSE OUTCOME

- CO1:** Discuss the electrochemical energy systems such as electrodes and batteries.
- CO2:** Explain the fundamental concepts of corrosion, its control and surface modification methods namely electroplating and electro less plating
- CO3:** Enumerate the importance, synthesis and applications of polymers. Understand properties and application of Nanomaterials.
- CO4:** Describe the principles of green chemistry, understand properties and application alternative fuels.
- CO5:** Illustrate the fundamental principles of water chemistry, applications of volumetric and analytical instrumentation.

PROGRAM OUTCOMES

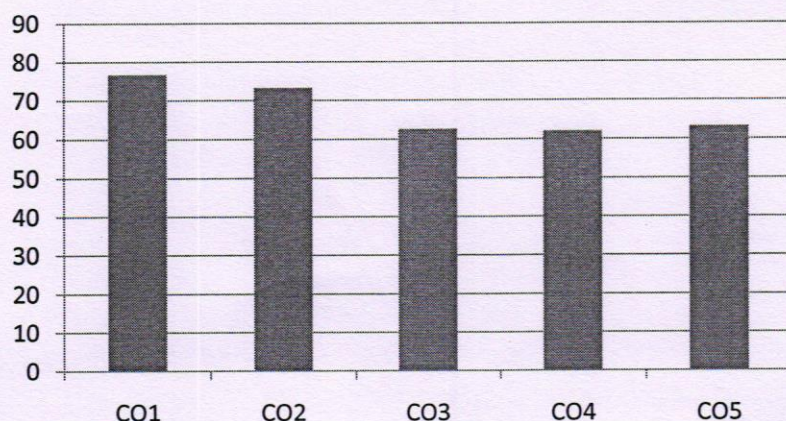
- PO1** Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2** Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3** Design / development of solutions: An ability to design solution for engineering problems and design system components or process to meet desired specifications and needs.
- PO4** Conduct investigations of complex Problem: An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
- PO5** Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities.
- PO6** The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues.
- PO7** Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9** Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10** Communication: Communicate effectively on complex engineering activities with the engineering community and with the society.
- PO11** Project management and finance: An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multidisciplinary environments.
- PO12** Life-long learning: A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning.

NAME OF THE COLLEGE		SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY, TUMAKURU					
FACULTY NAME		Dr. CHANDRASEKHAR. N & Ms. MANAS N					
BRANCH		CSE/EE/CV/ME		ACADEMIC YEAR		2021-22	
COURSE	B.E	SEMESTER		II	SECTION		A & B
SUBJECT	ENGINEERING CHEMISTRY				SUBJECT CODE		21CHE22

CO & PO MAPPING												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	1	1	-	2	3	1	1	1	1	2
CO2	3	2	1	2	-	1	1	1	1	1	-	2
CO3	3	2	1	1	1	2	2	1	1	1	1	2
CO4	3	1	1	1	-	2	3	1	1	1	1	2
CO5	3	1	1	1	1	2	2	1	1	1	1	2
AVERAGE	C	1.45	0.92	1.25	1	1.65	2.17	1.05	0.92	0.92	1	1.85
OVERALL MAPPING OF SUBJECT												1.41

CO AND PO ATTAINMENT

	CO%	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	76.66	2.3	0.77	0.77	0.77	-	1.53	2.3	0.77	0.77	0.77	0.77	1.53
CO2	73.23	2.19	1.46	0.73	1.46	-	0.73	0.73	0.73	0.73	0.73	-	1.46
CO3	62.54	2.09	1.39	0.63	0.63	0.63	1.39	1.39	0.63	0.63	0.63	0.63	1.39
CO4	61.99	1.86	0.62	0.62	0.62	-	1.24	1.86	0.62	0.62	0.62	0.62	1.24
CO5	63.14	1.89	0.63	0.63	0.63	0.63	1.26	1.26	0.63	0.63	0.63	0.63	1.26
AVG	67.5	2.066	0.974	0.676	0.822	0.63	1.23	1.508	0.676	0.676	0.676	0.66	1.376
FINAL ATTAINMENT LEVEL													1.0



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1SV21CS056	18	13	31	17	20	37	19	13	17	14	18	81	3.8	3.8	3.8	3.8	3.8	5.8	5.8	5.8	5.8	5.8	46.6	39.6	46.6	23.6	40.6	86.3	73.33	86.3	69.41	75.19		
1SV21CS057	19	11	30	17	18	35	17	17	15	10	6	69	3.8	3.8	3.8	3.8	3.8	7.4	7.4	7.4	7.4	7.4	47.2	45.2	44.2	21.2	28.2	87.41	83.7	81.85	62.35	52.22		
1SV21CS058	19	16	35	17	18	35	19	19	16	18	18	90	3.6	3.6	3.6	3.6	3.6	7.2	7.2	7.2	7.2	7.2	48.8	46.8	44.8	28.8	44.8	90.37	86.67	82.96	84.71	82.96		
1SV21CS059	20	20	40	20	18	38	20	20	18	20	18	98	3.8	3.8	3.8	3.8	3.8	5.4	5.4	5.4	5.4	5.4	49.2	49.2	47.2	27.2	49.2	91.11	91.11	87.41	80	91.11		
1SV21CS060	20	10	30	17	19	36	18	20	18	17	17	90	3.8	3.8	3.8	3.8	3.8	5.4	5.4	5.4	5.4	5.4	47.2	46.2	46.2	26.2	36.2	87.41	85.56	85.56	77.06	67.04		
1SV21CS061	18	13	31	19	17	36	16	18	15	0	14	63	3.8	3.8	3.8	3.8	3.8	2	2	2	2	2	39.8	42.8	37.8	5.8	32.8	73.7	79.26	70	17.06	60.74		
1SV21CS062	20	8	28	19	10	29	20	12	6	0	7	45	3.8	3.8	3.8	3.8	3.8	2	2	2	2	2	45.8	36.8	21.8	5.8	20.8	84.81	68.15	40.37	17.06	38.52		
1SV21CS063	19	20	39	20	40	20	19	20	20	20	20	99	4	4	4	4	4	7.4	7.4	7.4	7.4	7.4	50.4	50.4	51.4	31.4	51.4	93.33	93.33	95.19				
1SV21CS064	20	12	32	16	9	25	17	20	7	17	6	67	3.8	3.8	3.8	3.8	3.8	5.4	5.4	5.4	5.4	5.4	46.2	45.2	25.2	26.2	27.2	85.56	83.7	46.67	77.06	50.37		
1SV21CS065	14	4	18	4	0	4	12	4	0	0	0	16	3	3	3	3	3	1	1	1	1	1	30	12	4	4	8	55.56	22.22	7.407	11.76	14.81		
1SV21CS066	5	5	10	16	2	18	0	20	11	15	0	46	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1SV21CS067	20	11	31	20	12	32	19	20	13	19	19	90	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1SV21CS068	18	14	32	14	17	31	17	20	14	12	12	75	3.8	3.8	3.8	3.8	3.8	6.8	6.8	6.8	6.8	6.8	45.6	44.6	41.6	22.6	36.6	84.44	82.59	77.04	66.47	67.78		
1SV21CS069	9	8	17	1	1	2	15	12	2	0	2	31	3.6	3.6	3.6	3.6	3.6	4.4	4.4	4.4	4.4	4.4	32	21	11	8	18	59.26	38.89	20.37	23.53	33.33		
1SV21CS070	19	17	36	19	20	39	19	20	20	20	19	98	4	4	4	4	4	8.2	8.2	8.2	8.2	8.2	50.2	51.2	52.2	32.2	48.2	92.96	94.81	96.67	94.71	89.26		
1SV21CS071	19	20	39	20	20	40	20	20	20	20	19	99	4	4	4	4	4	9	9	9	9	9	52	53	53	33	52	96.3	98.15	98.15	97.06	96.3		
1SV21CS072	19	20	39	20	20	40	18	20	18	19	20	95	4	4	4	4	4	7	7	7	7	7	48	51	49	30	51	88.89	94.44	90.74	88.24	94.44		
1SV21CS073	20	17	37	19	20	39	20	20	17	19	20	96	4	4	4	4	4	6.4	6.4	6.4	6.4	6.4	50.4	49.4	47.4	29.4	47.4	93.33	91.48	87.78	86.47	87.78		
1SV21CS074	17	9	26	16	7	27	17	18	12	6	13	66	4	4	4	4	4	5.4	5.4	5.4	5.4	5.4	43.4	43.4	28.4	15.4	31.4	80.37	80.37	52.59	45.29	58.15		
1SV21CS075	15	3	18		8	16	10	7	1	0	9	97	4	4	4	4	4	6.8	6.8	6.8	6.8	6.8	35.8	17.8	19.8	10.8	22.8	66.3	32.96	36.67	31.76	42.22		
1SV21CS076	10	20	40	20	20	40	20	20	18	20	20	98	4	4	4	4	4	8.4	8.4	8.4	8.4	8.4	42.4	52.4	50.4	32.4	52.4	78.52	97.04	93.33	95.29	97.04		
1SV21CS077	17	12	21	20	19	39	17	17	18	19	17	88	4	4	4	4	4	7.4	7.4	7.4	7.4	7.4	45.4	48.4	48.4	30.4	40.4	84.07	89.63	89.63	89.41	74.81		
1SV21CS078	20	19	39	20	19	39	20	20	20	18	20	98	4	4	4	4	4	8.6	8.6	8.6	8.6	8.6	52.6	52.6	51.6	30.6	51.6	97.41	97.41	95.56	90	95.56		
1SV21CS079	20	14	34	19	19	38	19	19	20	20	12	90	4	4	4	4	4	7.6	7.6	7.6	7.6	7.6	50.6	49.6	50.6	31.6	37.6	93.7	91.85	93.7	92.94	69.63		
1SV21CS080	15	11	26	20	15	35	16	19	0	7	20	62	4	4	4	4	4	4.2	4.2	4.2	4.2	4.2	39.2	47.2	23.2	15.2	39.2	72.59	87.41	42.96	44.71	72.59		
1SV21CS081	11	4	15	12	2	14	11	6	8	3	0	28	3.8	3.8	3.8	3.8	3.8	1.6	1.6	1.6	1.6	1.6	27.4	23.4	15.4	8.4	9.4	50.74	43.33	28.52	24.71	17.41		
1SV21CS082	19	20	39	20	19	19	20	19	15	18	17	92	4	4	4	4	4	5	5	5	5	5	48	48	43	27	46	88.89	88.89	79.63	79.41	85.19		
1SV21CS083	15	6	21	8	4	12	14	7	4	5	4	34	4.2	4.2	4.2	4.2	4.2	5	5	5	5	5	38.2	24.2	17.2	14.2	19.2	70.74	44.81	31.85	41.76	35.56		
1SV21CS084	19	5	24	8	3	11	20	17	13	14	8	72	4	4	4	4	4	3.6	3.6	3.6	3.6	3.6	46.6	32.6	23.6	21.6	20.6	86.3	60.37	43.7	63.53	38.15		
1SV21CS085	13	4	17	10	0	10	15	7	17	0	3	45	3.4	3.4	3.4	3.4	3.4	2.6	2.6	2.6	2.6	2.6	34	23	23	6	13	62.96	42.59	42.59	17.65	24.07		
1SV21CS086	20	18	38	20	19	39	20	20	14	11	18	82	4.2	4.2	4.2	4.2	4.2	5	5	5	5	5	49.2	49.2	42.2	20.2	45.2	91.11	91.11	78.15	59.41	83.7		
1SV21CS087	20	20	40	19	19	38						AB	2.2	2.2	2.2	2.2	2.2	3.6	3.6	3.6	3.6	3.6	25.8	24.8	24.8	5.8	25.8	47.78	45.93	45.93	17.06	47.78		
1SV21CV001				19	13	32	13	12	2	3	13	43	4	4	4	4	4	4	4	4	4	4	21	39	23	11	21	38.89	72.22	42.59	32.35	38.89		
1SV21CV002	13	8	21	16	9	25	14	11	7	4	15	51	3.8	3.8	3.8	3.8	3.8	6.2	6.2	6.2	6.2	6.2	37	37	26	14	33	68.52	68.52	48.15	41.18	61.11		
1SV21CV003	20	3	23	3	14	17	19	14	11	20	19	83	3.4	3.4	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6	46	24	32	27	29	85.19	44.44	59.26	79.41	53.7		
1SV21CV004	17	6	23	15	3	18	16	18	5	9	5	53	3	3	3	3	3	4	4	4	4	4	40	40	15	16	18	74.07	74.07	27.78	47.06	33.33		
1SV21CV005	17	6	23	19	7	26	10	4				5	19	2.2	2.2	2.2	2.2	2.2	3.8	3.8	3.8	3.8	33	29	13	6	17	61.11	53.7	24.07	17.65	31.48		
1SV21CV006	8	4	12				10					12	22	4	4	4	4	4	1.6	1.6	1.6	1.6	1.6	23.6	5.6	5.6	5.6	21.6	43.7	10.37	10.37	16.47	40	
1SV21CV007	19	12	33	20	20	40	18	19	15	18	20	90	3.8	3.8	3.8	3.8	3.8	4	4	4	4	4	44.8	46.8	42.8	25.8	39.8	82.96	86.67	79.26	75.88	73.7		
1SV21CV008	15	7	22	13	5	18	13	19	18	13	12	75	3	3	3	3	3	2.4	2.4	2.4	2.4	2.4	33.4	37.4	28.4	18.4	24.4	61.85	69.26	52.59	54.12	45.19		
1SV21CV010	17	5	22	5	6	14	18	12	18	10	0	58	3.6	3.6	3.6	3.6	3.6	5	5	5	5	5	43.6	25.6	32.6	18.6	13.6	80.74	47.41	60.37	54.71	25.19		
1SV21CV011	18	1	19	8	8	16	14	13				3	40	1.8	1.8	1.8	1.8	1.8	3.8	3.8	3.8	3.8	37.6	26.6	13.6	5.6	9.6	69.63	49.26	25.19	16.47	17.78		
1SV21CV015	20	14	34	20	17	37	19	19	4	11	15	68	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	46.2	46.2	28.2	18.2	36.2	85.56	85.56	52.22	53.53	67.04			
1SV21EE001	17	8	25	14	10	20	19	17	1	13	11	61	3.8	3.8	3.8	3.8	3.8	2.4	2.4	2.4	2.4	2.4	42.2	37.2	17.2	19.2	25.2	78.15	68.89	31.85	56.47	46.67		
1SV21EE002	11	4	15	9	0	9	16	15	6	4	9	50	5.4	5.4	5.4	5.4	5.4	1.8	1.8	1.8	1.8	1.8	34.2	31.2	13.2	11.2	20.2	63.33	57.78	24.44	32.94	37.41		
1SV21EE003	20	15	35	20	17	37	20	19	16	13	19	87	3.6	3.6	3.6	3.6	3.6	5.8	5.8	5.8	5.8	5.8	49.4	48.4	42.4	22.4	43.4	91.48	89.63	78.52	65.88	80.37		
1SV21EE005	13		27	18	15	33	19	18	11	6	14	68	4	4	4	4	4	3.8	3.8	3.8	3.8	3.8	39.8	43.8	33.8	13.8	21.8	73.7	81.11	62.59	40.59	40.37		
1SV21EE006	17	5	22	10	8	18	19	8	6	2																								