

**DEPARTMENT OF CHEMISTRY**

SUBJECT	ENGINEERING CHEMISTRY	SUBJECT CODE	21CHE12
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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.

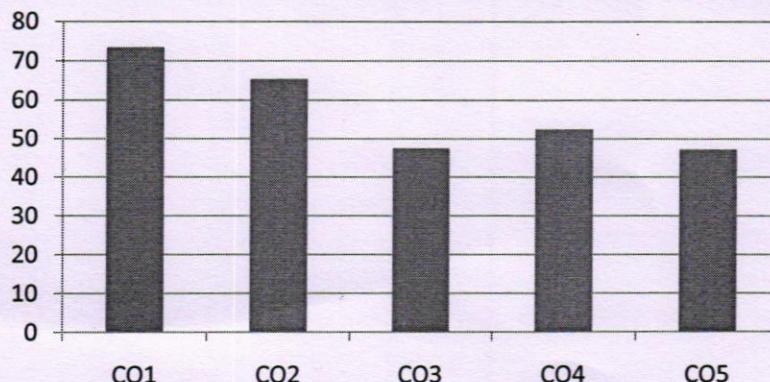
PROGRAM OUTCOMES

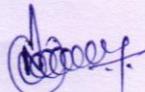
- PO1** Engineering knowledge: An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and Knowledge.
- PO2** Problem analysis: Identify, formulate, research literature, and analyze complex engineering 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.

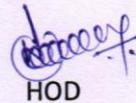
NAME OF THE COLLEGE		SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY, TUMAKURU													
FACULTY NAME		Dr. CHANDRASEKHAR. N & Ms. MANAS N													
BRANCH		EC/IS/AIDS			ACADEMIC YEAR				2021-22						
COURSE	B.E	SEMESTER			I	SECTION			C & D						
SUBJECT	ENGINEERING CHEMISTRY				SUBJECT CODE			21CHE12							
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				

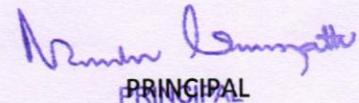
CO AND PO ATTAINMENT

	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




FACULTY


HOD


PRINCIPAL
SIET., TUMAKURU.

Academic year	2021-22		SEM I		Total strength		106		Subject		Engg. Chemistry				Subject Code		21CHE12																			
	SEM:I SEC: C&D		IA TEST 1(40M)		IA TEST 2 (40M)		IA TEST 3 (100M)		ASSIGNEMENT + QUIZ (20M)		SEE MARKS(50M)				total Cos ATTAI MEN		Avg of individual CO																			
	USN	CO1	CO5	TOTAL	CO2	CO3	TOTAL	CO1	CO2	CO3	CO4	CO5	TOTAL	CO1	CO2	CO3	CO4	CO5	CO1= 54	CO2= 54	CO3= 54	CO= 4=3	CO1	CO2	CO3	CO4	CO5									
1SV21AD001	16	0	16		10	21	12	12	7	5	5	36	2.8	2.8	2.8	4.4	4.4	4.4	4.4	35.2	19.2	24.2	12	65.19	35.56	44.81	35.88	22.59								
1SV21AD002	3	0	3	11	6	17	7	9	0	2	5	23	4	4	4	4	2.8	2.8	2.8	16.8	26.8	12.8	8.8	31.11	49.63	23.7	25.88	21.85								
1SV21AD003	13	12	25	13	4	17	18	15	9	15	9	66	4	4	4	4	4.8	4.8	4.8	39.8	36.8	21.8	24	73.7	68.15	40.37	70	55.19								
1SV21AD004	1	0	1	2	12	14	19	5	0		5	29	3.6	3.6	3.6	3.6	2.8	2.8	2.8	26.4	13.4	18.4	6.4	48.89	24.81	34.07	18.82	21.11								
1SV21AD005	17	4	21	10	10	20	18	18	3	5	7	51	4	4	4	4	4	4	4	4	43	21	13	79.63	66.67	38.89	38.24	35.19								
1SV21AD006	11	0	11	6	4	10	18	10	8	7	5	36	3.8	3.8	3.8	1.4	1.4	1.4	1.4	32.2	26.2	9.2	12	59.63	48.52	17.04	35.88	28.15								
1SV21AD008	15	5	20	13	0	13	12	8	4	7	5	85	4	4	4	4	4.4	4.4	4.4	4.4	46.4	43.4	44.4	24	85.93	80.37	82.22	71.76	63.7							
1SV21AD009	18	13	31	16	19	35	20	19	17	16	13	85	4	4	4	4	5	5	5	46	47	24	27	85.19	87.04	44.44	79.41	50								
1SV21AD010	18	12	30	18	10	28	19	20	5	18	6	68	4	4	4	4	5	5	5	42.4	18.4	6.4	14	78.52	34.07	11.85	42.35	24.81								
1SV21AD011	18	1	19	0	0	0	18	12	0	8	6	44	3.8	3.8	3.8	2.6	2.6	2.6	2.6	42.4	47.2	46.2	36.2	27	87.41	85.56	67.04	80	67.04							
1SV21AD012	18	10	28	17	15	32	20	20	12	18	17	87	3.6	3.6	3.6	3.6	2.8	2.8	2.8	2.8	42.4	28.4	18.4	6.4	78.52	52.59	34.07	18.82	48.89							
1SV21AD013	18	11	29	12	8	20	18	10	4	0	9	41	3.6	3.6	3.6	3.6	2.8	2.8	2.8	2.8	42.4	24.4	18.4	21	82.22	45.19	34.07	62.94	41.48							
1SV21AD015	17	5	22	0	0	0	19	16	10	13	9	67	4	4	4	4	4	4	4	4	4.8	4.8	4.8	4.8	43.8	44.8	10.8	22	81.11	82.96	20	64.12	25.56			
1SV21AD016	16	0	16	17		17	19	19	2	13	5	58	4	4	4	4	4	4	4	4	4.2	4.2	4.2	4.2	37.2	31.2	9.2	17	68.89	57.78	17.04	50.59	24.44			
1SV21AD017	15	0	15	8	1	9	14	15	0	9	5	43	4	4	4	4	4	4	4	1.2	1.2	1.2	1.2	16.2	17.2	8.2	5.2	30	31.85	15.19	15.29	17.04				
1SV21AD018	11	4	15	12	3	15	0	0	0	0	0	45	4	4	4	4	4	4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	32.6	38.6	11.6	18	60.37	71.48	21.48	51.76	40	
1SV21AD019	13	9	22	13	4	17	12	18	0	10	5	45	4	4	4	4	4	4	4	4	4.4	4.4	4.4	4.4	44.4	24.4	18.4	21	71.76	71.11						
1SV21AD020	16	11	27	14	10	24	18	18	10	12	9	67	4	4	4	4	4	4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	45.4	45.4	36.4	24	84.07	67.41	71.76	52.22		
1SV21AD021	17	13	30	18	10	28	19	18	17	15	16	85	4	4	4	4	5.4	5.4	5.4	5.4	45.4	45.4	36.4	24	84.07	67.41	71.76	52.22								
1SV21AD022	18	13	31	16	17	33	19	18	17	13	14	81	3.6	3.6	3.6	3.6	3.6	3.6	6	6	6	6	6	6	6	6	24.4	23.4	8.4	12	47.04	43.33	15.56	36.47	34.07	
1SV21AD023	8	0	8	8	3	11	12	10	0	7	13	42	3.8	3.8	3.8	3.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	39.8	40.8	9.8	18	73.7	75.56	18.15	52.35	29.26		
1SV21AD024	16	0	16	10	0	10	13	14	3	0	6	36	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	39.8	40.8	9.8	18	73.7	75.56	18.15	52.35	29.26	
1SV21AD025	15	0	15	15	0	15	18	19	3	11	9	62	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	44.2	42.2	30.2	22	81.85	78.15	55.93	65.29	55.93	
1SV21AD026	16	8	24	13	12	25	20	14	9	14	9	66	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	41.8	37.8	44.8	26	77.41	70	82.96	75.88	66.3
1SV21AD027	18	14	32	17	20	37	18	15	19	20	16	87	3.8	3.8	3.8	3.8	3.8	3.8	2	2	2	2	2	2	2	2	30.8	27.8	16.8	15	57.04	51.48	31.11	43.53	20	
1SV21AD028	8	0	8	8	7	15	16	13	3	8	8	44	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	37.2	32.2	7.2	11	68.89	59.63	13.33	32.94	31.85	
1SV21AD029	13	1	14	11	2	13	19	16	0	6	11	73	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	40.6	38.6	21.6	8.6	75.19	71.48	40	25.29	49.26	
1SV21AD030	13	5	18	11	3	14	20	20	11	1	14	66	3.8	3.8	3.8	3.8	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	39	35	22	14	72.22	64.81	40.74	41.18	33.33		
1SV21AD031	16	6	22	17	5	23	15	10	9	6	4	44	3.6	3.6	3.6	3.6	4.4	4.4	4.4	4.4	43.6	31.6	28.6	14	80.74	58.52	52.96	40	51.11							
1SV21AD032	17	11	28	9	14	23	17	13	5	4	7	46	3.8	3.8	3.8	3.8	5.8	5.8	5.8	5.8	43.6	31.6	28.6	14	80.74	58.52	34.07	36.47	47.04							
1SV21AD033	12	10	22	10	5	20	16	4	6	5	8	39	3.8	3.8	3.8	3.8	3.6	3.6	3.6	3.6	42.4	34.2	31.4	19	85.4	78.52	57.04	51.48	31.85							
1SV21AD034	16	10	26	19	18	37	20	7	10	15	12	74	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	40.6	38.6	21.6	8.6	75.19	71.48	40	25.29	49.26	
1SV21AD035	18	12	30	19	18	37	17	19	11	15	11	73	3.8	3.8	3.8	3.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	28.8	19.8	26.8	9.8	53.33	36.67	49.63	28.82	29.26		
1SV21AD036	11	0	11	11	9	20	12	3	2	4	10	41	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	47	42	39	19	87.04	77.78	72.22	55.88	51.85
1SV21AD037	18	11	29	19	14	33	20	14	16	10	8	68	4	4	4	4	4	4	4	7	7	7	7	7	7	7	7	46	51	50	29	85.19	94.44	92.59	85.29	92.59
1SV21AD038	20	20	40	20	20	40	20	19	18	19	19	91	4	4	4	4	4	4	4	4	4	4	4	4	4	4	44.8	37.8	30.8	25	82.96	70	57.04	72.94	47.78	
1SV21AD039	16	15	31	15	14	29	19	19	20	12	17	9	78	4	4	4	4	4	4	4	4	4	4	4	4	4	4	42.4	42.4	31.4	19	78.52	78.52	57.06	54.44	
1SV21AD040	6	0	6	7	0	7	10	6	0	0	0</td																									

1SV21IS021	19	19	38	20	19	39	20	20	20	18	19	97	4	4	4	4	4	5	5	5	5	48	49	48	27	88.89	90.74	88.89	79.41	87.04	
1SV21IS023	13	3	16	11	14	25	15	10	11	13	15	64	4	4	4	4	4	2.8	2.8	2.8	2.8	34.8	27.8	31.8	20	64.44	51.48	58.89	58.24	45.93	
1SV21IS024	20	11	31	12	16	28	19	20	9	12	11	71	3.8	3.8	3.8	3.8	3.8	5	5	5	5	47.8	40.8	33.8	21	88.52	75.56	62.59	61.18	57.04	
1SV21IS025	0	0	0	17	13	30	19	6	10	12	18	65	4	4	4	4	4	3.6	3.6	3.6	3.6	26.6	30.6	30.6	20	49.26	56.67	56.67	57.65	47.41	
1SV21IS026	18	9	27	16	16	32	20	20	12	18	19	89	3.8	3.8	3.8	3.8	3.8	6.2	6.2	6.2	6.2	48	46	38	28	88.89	85.19	70.37	82.35	70.37	
1SV21IS027	17	6	23	0	0	0	16	14	0	4	7	41	4	4	4	4	4	4.4	4.4	4.4	4.4	41.4	22.4	8.4	12	76.67	41.48	15.56	36.47	39.63	
1SV21IS028	19	12	31	17	14	31	19	15	6	10	8	58	4	4	4	4	4	6.8	6.8	6.8	6.8	48.8	42.8	30.8	21	90.37	79.26	57.04	61.18	57.04	
1SV21IS029	19	10	31	19	19	38	20	19	15	17	19	90	4	4	4	4	4	6.4	6.4	6.4	6.4	49.4	48.4	44.4	27	91.48	89.63	82.22	80.59	72.96	
1SV21IS030	18	15	33	19	18	37	19	20	12	17	9	77	4	4	4	4	4	5.4	5.4	5.4	5.4	46.4	48.4	39.4	26	85.93	89.63	72.96	77.65	61.85	
1SV21IS031	18	14	32	17	19	36	18	19	7	16	7	67	4	4	4	4	4	5.2	5.2	5.2	5.2	45.2	45.2	35.2	25	83.7	83.7	65.19	74.12	55.93	
1SV21IS032	19	13	32	19	18	37	20	20	15	18	20	93	3.8	3.8	3.8	3.8	3.8	6.6	6.6	6.6	6.6	49.4	49.4	43.4	28	91.48	91.48	80.37	83.53	80.37	
1SV21IS033	15	8	23	2	2	4	17	6	0	0	4	27	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	39.2	15.2	9.2	7.2	72.59	28.15	17.04	21.18	35.56	
1SV21IS034	18	6	24	5	3	8	20	16	9	15	10	70	4	4	4	4	4	4.4	4.4	4.4	4.4	46.4	29.4	20.4	23	85.93	54.44	37.78	68.82	45.19	
1SV21IS035	19	19	38	20	20	40	20	20	17	18	18	93	4	4	4	4	4	7.8	7.8	7.8	7.8	50.8	51.8	48.8	30	94.07	95.93	90.37	87.65	90.37	
1SV21IS036	20	13	33	19	18	37	20	20	11	19	15	85	4	4	4	4	4	6	6	6	6	50	49	39	29	92.59	90.74	72.22	85.29	70.37	
1SV21IS037	20	12	32	17	18	35	20	20	14	20	18	92	4	4	4	4	4	5.8	5.8	5.8	5.8	49.8	46.8	41.8	30	92.22	86.67	77.41	87.65	73.7	
1SV21EC001	19	0	19	19	14	33	18	10	12	7	7	54	4	4	4	4	4	3.8	3.8	3.8	3.8	44.8	36.8	33.8	15	82.96	68.15	62.59	43.53	27.41	
1SV21EC002	20	20	40	20	20	40	20	20	18	17	20	95	4	4	4	4	4	8	8	8	8	52	52	50	29	96.3	96.3	92.59	85.29	96.3	
1SV21EC003	20	20	40	20	20	40	20	20	20	20	20	100	4	4	4	4	4	8.4	8.4	8.4	8.4	52.4	52.4	52.4	32	97.04	97.04	95.29	97.04	97.04	
1SV21EC004	15	0	15	12	5	17	14	4	4	4	5	31	4	4	4	4	4	0.8	0.8	0.8	0.8	33.8	20.8	13.8	8.8	62.59	38.52	25.56	25.88	18.15	
1SV21EC005	20	0	20	18	6	24	14	15	6	5	6	46	4	4	4	4	4	2.2	2.2	2.2	2.2	40.2	39.2	18.2	11	74.44	72.59	33.7	32.94	22.59	
1SV21EC006	20	14	34	13	0	13	20	20	5	14	6	65	4	4	4	4	4	4.4	4.4	4.4	4.4	48.4	41.4	13.4	22	89.63	76.67	24.81	65.88	52.59	
1SV21EC007	8	0	8	8	1	9	10	14	2	2	3	31	4	4	4	4	4	2.2	2.2	2.2	2.2	24.2	28.2	9.2	8.2	44.81	52.22	17.04	24.12	17.04	
1SV21EC008	20	7	27	18	18	36	19	19	15	15	15	83	4	4	4	4	4	6.6	6.6	6.6	6.6	49.6	47.6	43.6	26	91.85	88.15	80.74	75.29	60.37	
1SV21EC009	19	12	31	20	19	39	20	19	19	19	20	98	4	4	4	4	4	6.8	6.8	6.8	6.8	49.8	50.8	48.8	30	92.22	94.07	90.37	87.65	79.26	
1SV21EC010	18	18	36	20	18	38	20	20	14	19	18	91	4	4	4	4	4	6.2	6.2	6.2	6.2	48.2	50.2	42.2	29	89.26	92.96	78.15	85.88	85.56	
1SV21EC011	20	19	39	14	8	22	20	19	15	19	14	87	4	4	4	4	4	4.4	4.4	4.4	4.4	48.4	41.4	31.4	27	89.63	76.67	58.15	80.59	76.67	
1SV21EC012	14	2	16	4	0	4	2	20	10	0	12	44	4	4	4	4	4	1	1	1	1	21	29	15	5	38.89	53.7	27.78	14.71	35.19	
1SV21EC013	18	10	28	20	16	36	19	19	14	11	15	78	3.8	3.8	3.8	3.8	3.8	6.4	6.4	6.4	6.4	47.2	49.2	40.2	21	87.41	91.11	74.44	62.35	65.19	
1SV21EC014	18	16	34	18	11	29	20	20	9	13	14	76	4	4	4	4	4	3.6	3.6	3.6	3.6	45.6	45.6	27.6	21	84.44	84.44	51.11	60.59	69.63	
1SV21EC015	18	13	31	20	20	40	20	19	15	17	17	88	4	4	4	4	4	7	7	7	7	49	50	46	28	90.74	92.59	85.19	82.35	75.93	
1SV21EC016	19	0	19	15	0	15	19	9	2	4	6	40	4	4	4	4	4	1.6	1.6	1.6	1.6	43.6	29.6	7.6	9.6	80.74	54.81	14.07	28.24	21.48	
1SV21EC017	17	0	17	8	0	8	19	8	6	0	6	39	4	4	4	4	4	1.6	1.6	1.6	1.6	41.6	21.6	11.6	5.6	77.04	40	21.48	16.47	21.48	
1SV21EC018	20	11	31	17	16	33	20	20	13	17	17	87	4	4	4	4	4	4	4	4	4	48	45	37	25	88.89	83.33	68.52	73.53	66.67	
1SV21EC019	20	19	39	20	20	40	17	20	17	18	20	92	4	4	4	4	4	6.8	6.8	6.8	6.8	47.8	50.8	47.8	29	88.52	94.07	88.52	84.71	92.22	
1SV21EC020	18	0	18	7	10	17	18	15	3	0	5	41	4	4	4	4	4	2.6	2.6	2.6	2.6	42.6	28.6	19.6	6.6	78.89	52.96	36.3	19.41	21.48	
1SV21EC021	14	0	14	6	0	6	12	6	0	0	5	23	4	4	4	4	4	1.8	1.8	1.8	1.8	31.8	17.8	5.8	5.8	58.89	32.96	10.74	17.06	20	
1SV21EC022	16	2	18	17	5	22	18	16	4	0	5	43	3.8	3.8	3.8	3.8	3.8	3.6	3.6	3.6	3.6	41.4	40.4	16.4	7.4	76.67	74.81	30.37	21.76	26.67	
1SV21EC023	19	10	39	0	0	0	19	20	8	7	12	66	4	4	4	4	4	3.6	3.6	3.6	3.6	45.6	27.6	15.6	15	84.44	51.11	28.89	42.94	54.81	
1SV21EC024	19	11	30	14	12	26	20	19	17	17	14	87	4	4	4	4	4	5.6	5.6	5.6	5.6	48.6	42.6	38.6	27	90	78.89	71.48	78.24	64.07	
1SV21EC025	20	3	23	20	11	31	19	19	2	4	7	51	4	4	4	4	4	5	5	5	5	48	48	23	13	88.89	88.89	40.74	38.24	35.19	
1SV21EC027	17	13	30	17	11	28	19	15	8	11	11	64	3.6	3.6	3.6	3.6	3.6	6.8	6.8	6.8	6.8	46.4	42.4	29.4	21	85.93	78.52	54.44	62.94	63.7	
1SV21EC030	20	15	35	19	13	32	20	14	12	17	15	78	4	4	4	4	4	6.2	6.2	6.2	6.2	50.2	43.2	35.2	27	92.96	80	65.19	80	74.44	
1SV21EC031	18	5	23	20	8	28	18	9	0	0	0	27	4	4	4	4	4	2.4	2.4	2.4	2.4	42.4	35.4	14.4	6.4	78.52	65.56	26.67	18.82	21.11	
1SV21EC032	15	0	15																												



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.

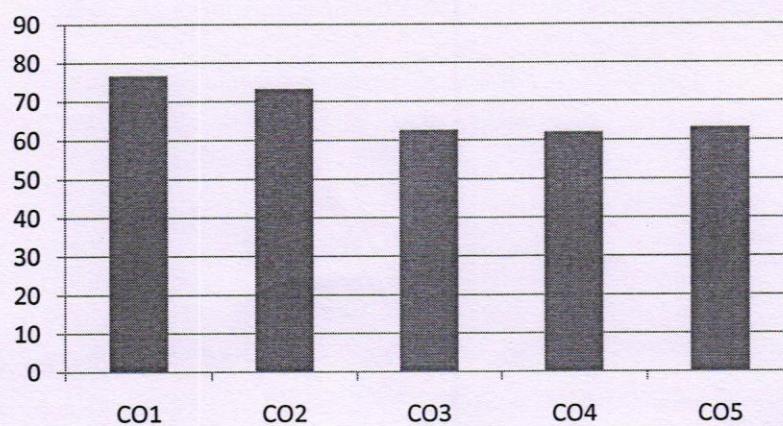
NAME OF THE COLLEGE	SHRIDEVI INSTITUTE OF ENGINEERING & TECHNOLOGY, TUMAKURU										
FACULTY NAME	Dr. CHANDRASEKHAR. N & Ms. MANAS N										
BRANCH	CSE/EE/CV/ME			ACADEMIC YEAR				2021-22			
COURSE	B.E	SEMESTER			II	SECTION			A & B		
SUBJECT	ENGINEERING CHEMISTRY				SUBJECT CODE		21CHE22				

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



FACULTY

HOD

PRINCIPAL
PRINCIPAL
SIET., TUMAKURU.

Academic year SEM:I SEC: A&B	2021-22			SEM II			Total strength			103			Subject			Engg. Chemistry			Subject Code			21CHE22										
	IA TEST 1(40M)			IA TEST 2 (40M)			IA TEST 3 (100M)						ASSIGNEMENT + QUIZ (20M)			SEE MARKS(50M)			Total Cos ATTAINMENT					Avg of Individual CO								
	USN	CO1	CO5	TOTAL	CO2	CO3	TOTAL	CO1	CO2	CO3	CO4	COS	TOTAL	CO1	CO2	CO3	CO4	CO5	CO1	CO2	CO3	CO4	CO5	54	54	54	34	54	CO1	CO2	CO3	CO4
1SV21CS001	18	19	37	19	18	37	18	20	14	20	19	91	3.6	3.6	3.6	6.2	6.2	6.2	6.2	45.8	48.8	41.8	29.8	47.8	84.81	90.37	77.41	87.65	88.52			
1SV21CS002	20	20	40	18	10	28	20	20	9	18	19	86	4	4	4	4	4	7.4	7.4	7.4	7.4	51.4	49.4	30.4	29.4	50.4	95.19	91.48	56.3	86.47	93.33	
1SV21CS003	19	19	38	20	8	28	18	20	4	8	12	62	3.8	3.8	3.8	4.4	4.4	4.4	4.4	45.2	48.2	20.2	16.2	39.2	83.7	89.26	37.41	47.65	72.59			
1SV21CS004	10	2	12	12	6	18	13	6	6	2	6	33	3.6	3.6	3.6	2.6	2.6	2.6	2.6	29.2	24.2	18.2	8.2	14.2	54.07	44.81	33.7	24.12	26.3			
1SV21CS005	19	10	29	14	8	22	19	16	18	16	7	76	3.6	3.6	3.6	5	5	5	5	46.6	38.6	34.6	24.6	25.6	86.3	71.48	64.07	72.35	47.41			
1SV21CS006	20	16	36	10	15	25	20	20	20	20	20	100	3.8	3.8	3.8	6.6	6.6	6.6	6.6	50.4	40.4	45.4	30.4	46.4	93.33	74.81	84.07	89.41	85.93			
1SV21CS008	10	9	19	6	10	16	18	16	18	13	15	80	3.6	3.6	3.6	3.6	3.6	3.6	3.6	35.2	29.2	35.2	20.2	31.2	65.19	54.07	65.19	59.41	57.78			
1SV21CS009	19	12	31	19	13	32	19	20	20	18	19	96	3.8	3.8	3.8	3.6	3.6	3.6	3.6	45.4	46.4	40.4	25.4	38.4	84.07	85.93	74.81	74.71	71.11			
1SV21CS010	20	10	30	20	14	34	20	19	15	5	11	70	3.8	3.8	3.8	6.2	6.2	6.2	6.2	50	49	39	15	31	92.59	90.74	72.22	44.12	57.41			
1SV21CS011	14	6	20	16	0	30	19	20	13	17	12	81	3.8	3.8	3.8	6.6	6.6	6.6	6.6	43.4	46.4	23.4	27.4	28.4	80.37	85.93	43.33	80.59	52.59			
1SV21CS012	20	15	35	19	15	34	17	20	13	14	17	81	3.6	3.6	3.6	9	9	9	9	49.6	51.6	40.6	26.6	44.6	91.85	95.56	75.19	78.24	82.59			
1SV21CS013	15	18	33	17	6	22	17	15	11	11	12	66	3.6	3.6	3.6	7.8	7.8	7.8	7.8	43.4	43.4	28.4	22.4	41.4	80.37	80.37	52.59	65.88	76.67			
1SV21CS014	17	17	34	17	16	33	17	19	15	15	18	84	4.2	4.2	4.2	4.2	4.2	6	6	6	44.2	46.2	41.2	25.2	45.2	81.85	85.56	76.3	74.12	83.7		
1SV21CS015	20	17	37	20	18	38	19	20	18	18	19	94	3.8	3.8	3.8	8.6	8.6	8.6	8.6	51.4	52.4	48.4	30.4	48.4	95.19	97.04	89.63	89.41	89.63			
1SV21CS016	20	20	40	19	18	37	20	19	20	20	20	99	4	4	4	5.4	5.4	5.4	5.4	49.4	47.4	47.4	29.4	49.4	91.48	87.78	87.78	86.47	91.48			
1SV21CS017	17	19	36	13	14	27	20	16	10	0	10	56	3.8	3.8	3.8	3.6	3.6	3.6	3.6	44.4	36.4	31.4	7.4	36.4	82.22	67.41	58.15	21.76	67.41			
1SV21CS018	20	20	40	20	18	38	20	20	18	20	20	98	4	4	4	4	4	7	7	7	51	51	47	31	51	94.44	94.44	87.04	91.18	94.44		
1SV21CS019	20	11	31	14	17	31	19	20	17	18	19	93	3.8	3.8	3.8	8	8	8	8	50.8	45.8	45.8	29.8	41.8	94.07	84.81	84.81	87.65	77.41			
1SV21CS020	19	18	37	20	18	35	20	19	16	19	19	93	4	4	4	4	4	6.8	6.8	6.8	6.8	49.8	49.8	29.8	47.8	92.22	92.22	82.96	87.65	88.52		
1SV21CS021	9	1	10	2	2	6	18	4	5	0	2	29	4	4	4	4	4	1.6	1.6	1.6	1.6	32.6	11.6	12.6	5.6	8.6	60.37	21.48	23.33	16.47	15.93	
1SV21CS022	20	20	40	20	19	39	20	20	20	20	20	100	4	4	4	4	4	8.2	8.2	8.2	8.2	52.2	52.2	51.2	32.2	52.2	96.67	96.67	94.81	94.71	96.67	
1SV21CS023	18	19	37	16	19	35	17	20	19	19	20	95	4	4	4	4	4	7.2	7.2	7.2	7.2	46.2	47.2	49.2	30.2	50.2	85.56	87.41	91.11	88.82	92.96	
1SV21CS024	12	9	21	14	16	30	13	16	15	19	14	78	3.8	3.8	3.8	3.8	3.8	3.8	3.8	32.6	37.6	38.6	26.6	30.6	60.37	69.63	71.48	78.24	56.67			
1SV21CS025	20	19	39	20	20	40	20	20	20	20	20	100	4	4	4	4	4	6.4	6.4	6.4	6.4	50.4	50.4	30.4	49.4	93.33	93.33	89.41	91.48	91.48		
1SV21CS026	20	20	40	20	20	40	20	20	20	20	19	99	4	4	4	4	4	9	9	9	53	53	53	33	53	52	98.15	98.15	97.06	96.3		
1SV21CS027	14	10	24	16	13	29	15	17	17	18	18	85	3.8	3.8	3.8	3.8	3.8	2.6	2.6	2.6	35.4	39.4	36.4	24.4	34.4	65.56	72.96	67.41	71.76	63.7		
1SV21CS028	16	16	32	19	17	36	19	20	18	19	19	95	3.8	3.8	3.8	3.8	3.8	5	5	5	43.8	47.8	43.8	27.8	43.8	81.11	88.52	81.11	81.76	81.11		
1SV21CS029	18	15	33	17	18	35	20	20	17	18	15	90	4	4	4	4	4	6.8	6.8	6.8	6.8	48.8	47.8	45.8	28.8	40.8	90.37	88.52	84.81	84.71	75.56	
1SV21CS030	18	17	35	20	19	39	20	19	19	14	19	91	4.2	4.2	4.2	4.2	4.2	8.8	8.8	8.8	51	52	51	27	49	94.44	96.3	94.44	79.41	90.74		
1SV21CS031	9	8	17	14	2	16	0	0	0	0	0	0	3	3	3	3	3	3.6	3.6	3.6	15.6	20.6	8.6	6.6	14.6	28.89	38.15	15.93	19.41	27.04		
1SV21CS032	14	3	17	10	7	17	12	3	4	0	12	31	3.6	3.6	3.6	3.6	3.6	2.4	2.4	2.4	32	19	17	6	21	59.26	35.19	31.48	17.65	38.89		
1SV21CS033	19	10	29	12	16	28	17	19	18	15	19	88	3.6	3.6	3.6	3.6	3.6	5	5	5	44.6	39.6	42.6	23.6	37.6	82.59	73.33	78.89	69.41	69.63		
1SV21CS034	9	2	11	2	1	3	10	0	0	0	3	13	3.2	3.2	3.2	3.2	3.2	1.6	1.6	1.6	23.8	6.8	5.8	4.8	9.8	44.07	12.59	10.74	14.12	18.15		
1SV21CS035	20	19	39	18	18	36	18	19	18	19	19	93	3.8	3.8	3.8	3.8	3.8	8.8	8.8	8.8	50.6	49.6	48.6	31.6	50.6	93.7	91.85	90	92.94	93.7		
1SV21CS036	18	18	36	14	13	27	18	17	6	13	13	67	3.8	3.8	3.8	3.8	3.8	5.4	5.4	5.4	45.2	40.2	28.2	22.2	40.2	83.7	74.44	52.22	65.29	74.44		
1SV21CS037	20	17	37	14	18	32	18	20	18	19	12	87	3.8	3.8	3.8	3.8	3.8	5.8	5.8	5.8	47.6	43.6	45.6	28.6	38.6	88.15	80.74	84.44	84.12	71.48		
1SV21CS038	18	16	34	20	18	38	19	19	18	19	19	94	4	4	4	4	4	8.6	8.6	8.6	49.6	51.6	48.6	31.6	47.6	91.85	95.56	90	92.94	88.15		
1SV21CS039	9	5	14	6	1	7	13	16	2	7	2	40	4	4	4	4	4	1.8	1.8	1.8	27.8	27.8	8.8	12.8	12.8	51.48	16.3	37.65	23.7			
1SV21CS040	20	20	40	20																												

1SV21CS056	18	13	31	17	20	37	19	13	17	14	18	81	3.8	3.8	3.8	3.8	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	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	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	20	18	20	98	3.8	3.8	3.8	3.8	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	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	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	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	20	40	20	19	20	20	20	99	4	4	4	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	92.35	95.19		
1SV21CS064	20	12	32	16	9	25	17	20	7	17	6	67	3.8	3.8	3.8	3.8	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	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	13	44	21	23	13	24.07	81.48	38.89	67.65	24.07		
1SV21CS067	20	11	31	20	12	32	19	20	13	19	19	90	4	4	4	4	4	4	4	4	47	48	33	27	38	87.04	88.89	61.11	79.41	70.37		
1SV21CS068	18	14	32	14	17	31	17	20	14	12	12	75	3.8	3.8	3.8	3.8	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	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	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	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	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	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	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	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	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	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	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	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	4.2	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	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	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	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	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	2.6	2.6	2.6	2.6	34	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	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	25.8	24.8	24.8	5.8	25.8	47.78	45.93	45.93	17.06	47.78		
1SV21CV001												10																				
1SV21CV002	13	8	21	16	9	25	14	11	7	4	15	51	3.8	3.8	3.8	3.8	3.8	3.8	3.8	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	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	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								12	22	4	4	4	4	4	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	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	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	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	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	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	42.2	37.2	17.2	19.2	25.2	78.15	68.89	31.85	56.47	46.67		
1SV21EE002	11	4																														