

COURSE FILE

ON

ENGINEERING CHEMISTRY LAB

Course Code - CH106BS

I B. Tech Semester-I A.Y. 2022-2023

> Prepared by O.SUBHASHINI Asst. Professor

Head of the Department Department of H&S SRI INDU INSTITUTE OF ENGG & TECH beriouda[M] Ibrahimoatnam (M) R.R. Dist-501 51(

PRINCIPAL

Sri Indu Institute of Engineering & Tech Sheriguda(Vill), Ibrahimpatnam R.R. Dist. Telangana-501 510.

Main Road, Sheriguda, Ibrahimpatnam, R.R. Dist. 501 510, Telangana. Campus Ph: 9640590999, 9347187999.

https://siiet.ac.in



Sri Indu Institute of Engineering and Technology (Autonomous)

(Formerly RVR Institute of Engineering & Technology)

An Autonomous Institution Under UGC

NAAC Accredited. Recognized Under 2(f) of UGC Act 1956

EAMCET CODE: INDI

SUNA

ESTD: 2007

Approved by AICTE, New Delhi, & Affiliated to JNTUH, Hyderabad.

JNTUH CODE: X3

Name of the Physical	
laboratory:	ENGINEERING CHEMISTRY LAB
Course code	CH106BS
Room No	B-104&D-103
Name of the lab incharge	K.MOUNIKA
Name of the faculty incharge	O.SUBHASHINI

Index of Lab File

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INSTITUTE VISION & MISSION

Vision:

To become a premier institute of academic excellence by providing the world class education that transforms individuals into high intellectuals, by evolving them as empathetic and responsible citizens through continuous improvement.

Mission:

- IM1: To offer outcome-based education and enhancement of technical and practical skills.
- IM2: To Continuous assess of teaching-learning process through institute-industry collaboration.
- IM3: To be a centre of excellence for innovative and emerging fields in technology development with state-of-art facilities to faculty and students' fraternity.
- IM4: To Create an enterprising environment to ensure culture, ethicsand social responsibility among the stakeholders.

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PROGRAMME OUTCOMES

PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

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: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6: The Engineer & Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment & 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 & 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 society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, give and receive clear instructions.

PO11: Project Management & Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY B.Tech. in COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE) COURSE STRUCTURE, I YEAR SYLLABUS (BR22 Regulations) Applicable from Academic Year: 2022-23 Batch

I Year I Semester

S. No.	Course Code	Course Title	L	Т	Р	Credits
1.	MA101BS	Matrices and Calculus	3	1	0	4
2.	CH103BS	Engineering Chemistry	3	1	0	4
3.	CS103ES	Programming for Problem Solving	3	0	0	3
4.	EE101ES	Basic Electrical Engineering	2	0	0	2
5.	ME101ES	Computer Aided Engineering Graphics	1	0	4	3
6.	CS106ES	Elements of Computer Science & Engineering	0	0	2	1
7.	CH106BS	Engineering Chemistry Laboratory	0	0	2	1
8.	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1
9.	EE102ES	Basic Electrical Engineering Laboratory	0	0	2	1
		Induction Program				
		Total	12	2	12	20

I Year II Semester

S. No.	Course Code	Course	L	Т	Р	Credits
1.	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4
2.	AP202BS	Applied Physics	3	1	0	4
3.	ME202ES	Engineering Workshop	0	1	3	2.5
4.	EN204HS	English for Skill Enhancement	2	0	0	2
5.	EC201ES	Electronic Devices and Circuits	2	0	0	2
6.	AP205BS	Applied Physics Laboratory	0	0	3	1.5
7.	CS201ES	Python Programming Laboratory	0	1	2	2
8.	EN207HS	English Language and Communication Skills Laboratory	0	0	2	1
9.	CS203ES	IT Workshop	0	0	2	1
10.	*MC201ES	Environmental Science	3	0	0	0
		Total	13	4	12	20



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ENGINEERING CHEMISTRY LABORATORY (Course Code: CH106BS)

B.Tech. I Year I Sem.

L T P C 0 0 21

Prerequisites: Engineering Chemistry

Course Objectives: The course consists of experiments related to the principles of chemistry required for engineering student. The student will learn:

- Estimation of hardness of water to check its suitability for drinking purpose.
- Students are able to perform estimations of acids and bases using conductometry, potentiometry and pH metry methods.
- Students will learn to prepare polymers such as Bakelite and nylon-6 in the laboratory.
- Students will learn skills related to the lubricant properties such as saponification value, surface tension and viscosity of oils.

Course Outcomes: The experiments will make the student gain skills on:

- Determination of parameters like hardness of water and rate of corrosion of mild steel in various conditions.
- Able to perform methods such as conductometry, potentiometry and pH metry in order to find out the concentrations or equivalence points of acidsand bases.
- Students are able to prepare polymers like Bakelite and nylon-6.
- Estimations saponification value, surface tension and viscosity of lubricant oils.

List of Experiments:

- I. Volumetric Analysis: Estimation of Hardness of water by EDTA Complexometry method.
- II. Conductometry: Estimation of the concentration of an acid by Conductometry.
- **III. Potentiometry:** Estimation of the amount of Fe^{+2} by Potentiomentry.
- **IV. pH Metry:** Determination of an acid concentration using pH meter.

V. Preparations:

- 1. Preparation of Bakelite.
- 2. Preparation Nylon 6.
- VI. Lubricants:
 - 1. Estimation of acid value of given lubricant oil.
 - 2. Estimation of Viscosity of lubricant oil using Ostwald's Viscometer.
- **VII. Corrosion:** Determination of rate of corrosion of mild steel in the presence and absence of inhibitor.



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VIII. Virtual lab experiments

- 1. Construction of Fuel cell and its working.
- 2. Smart materials for Biomedical applications
- 3. Batteries for electrical vehicles.
- 4. Functioning of solar cell and its applications.

REFERENCE BOOKS:

- 1. Lab manual for Engineering chemistry by B. Ramadevi and P. Aparna, S Chand Publications, New Delhi (2022)
- 2. Vogel's text book of practical organic chemistry 5th edition
- 3. Inorganic Quantitative analysis by A.I. Vogel, ELBS Publications.

College Practical Chemistry by V.K. Ahluwalia, Narosa Publications Ltd. New De



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COURSE OUTCOMES

Course Name: Engineering Chemistry Lab (C117)

At the End of the course, student will be able to

C117.1 Determination of parameters like hardness of water by the complex metric titrations

(Understanding L2)

C117.2 Students can able to perform the methods such as conductometry, pH metry to find out concentration of unknown solutions. (Applying L3)

C117.3 Students can determine the Potentiometry in order to find out the concentrations of acids and bases. (Applying L3)

C117.4 Students are able to synthesize Polymers-Bakelite & Nylon-6. (Applying L3)

C117.5 Students can estimate the saponification value and viscosity of the lubricants.

(Analyzing L4)

C117.6 They can able to demonstrate the rate of corrosion of mild steel in various conditions (Understanding L2)

High -3

COs and POs & PSOs Mapping

Medium -2

Low-1

Course Outcome	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
C117.1	2	2	-	-	-	-	1	-	-	-	-	-	-	-
C117.2	2	2	-	-	1	-		-	-	-	-	-	-	-
C117.3	2	1	-	1	1	-	1	-	-	-	-	-	-	-
C117.4	2	-	2	-	-	1		-	-	-	-	-	-	-
C117.5	2	1	-	-	-		1	-	-	-	-	-	-	-
C117.6	2	1	-	1	-	1	1	-	-	-	-	-	-	-
AVE	2.00	1.4	2.0 0	1.0	1.0	1.0	1.0	-	-	-	-	-	-	-



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MAPPING OF EXPERIMENT OUTCOMES WITH CO/PO'S/PSO

EXPERIMENT OBJECTIVES	EXPERIMENT OUTCOMES	СО	PO'S
1.To estimate the total hardness of water by EDTA method.	The students will be able to analyze the nature of salts causing hardness and to solve the engineering problems arising during steam production in boilers.	C117.1	PO1, PO2 ,PO7
2.To determine the strength of the strong acid by titration with strong base conductometrically.	The student shall be able to analyze the variation of conductance values of given acid with addition of strong base using conductivity meter.	C117.2	PO1, PO2 PO5
3.To estimate the Fe ⁺² by potentiometry using KMnO ₄ .	The student shall be able to Analyze the variation of EMF values of given acid with addition of KMnO ₄ using potentiometer.	C117.3	PO1, PO2, PO4, PO5, PO7
4.To estimate the amount of HCl present in the given volume of test solution by P ^H metry.	The student shall be able to find out the concentrations of acids and bases.	C117.2	PO1, PO2 PO5
5.To prepare Bakelite polymer using Phenol and Formaldehyde.	The student shall be able to prepare the polymer of Bakelite	C117.4	PO1, PO3 PO6
6.To prepare Nylon-6,6 polymer using adipoyl chloride and hexamethylenediammine.	The student shall be able to prepare the polymer of Nylon-6,6.	C117.4	PO1, PO3 PO6
7.To determine the acid value of Coconut oil.	The student shall be able to identity and calculate the acid values of coconut oil.	C117.5	PO1, PO2 PO7



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8. To determine the viscosity of the given coconut oil and ethanol.	The students shall be able to Determine and calculate the Viscosity coefficient values of coconut oil and ethanol.	C117.5	PO1, PO2 PO7
9.To determine the rate of corrosion of mild steel in acidic medium in the absence and presence of an inhibitor and calculate the efficiency of the Inhibitor.	The student can able to understand the efficiency and function of inhibitor in the Process of corrosion.	C117.6	PO1, PO2 PO4, PO6 PO7
ADDITIONAL EXPERIMENT	ſS		
10.To determine the strength of the weak acid by titration with strong base conductometrically.	The student shall be able to analyze the variation of conductance values of given weak acid with addition of strong base using conductivity meter.	C117.2	PO1, PO2 PO5
11.To determine the surface tension of a given liquid at room temperature using stalagmometer by drop number method.	The student shall be able to determine and calculate the surface tension values of reference liquid and given liquid	C117.5	PO1, PO2 PO7

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Class:D	ATA	SCI	ENC	Е

Semester: 1 W.E.F-14-11-2022

LH: D-208

	I 9:40- 10:30	11 10:30 - 11:20	III 11:20- 12:10	12:10- 12.45	IV 12.45- 1.35	V 1.35- 2.25	VI 2.25- 3.15	VII 3.15-4.00
ION	BEE	M&C	PPS	1. State	BE	E/EC LA	В	LIB
TUE		PPS LAB	1	L	M&C	M&C	ECSE	EG(T)
WED	PPS	EC	BEE	N	EG	PRACTIC	CE	BEE(T)/M&C(T)
THU	EC	PPS	BEE	C	BE	E/EC LA	В	EC(T)/PPS(T)
FRI		EG PRACTIC	E	-	M&C	EC	BEE	PPS(T)/EC(T)
SAT	BEE	PPS	ECSE		PPS	M&C	EC	M&C(T)/BEE(T)

Course Code	Course Name	Name of the Faculty	Course Code	Course Name	Name of the Faculty
MA101BS	Matrices and Calculus	CH.SARITHA	ME101ES	ComputerAided Engineering Graphics	A.MALLESH
CII103BS	Engineering Chemistry	O.SUBHASHINI	CH106BS	Engineering Chemistry Lab	O.SUBHASHINI
CS103ES	Programming for Problem Solving	U.NARESH	CS107ES	Programming for Problem Solving Lab	U.NARESH/G.KALY ANI
EE101ES	Basic Electrical Engineering	S.NISCHALA	EE102ES	Basic Electrical Engineering Lab	G.BHARGAVI /M.NAGA RAJU
CS106ES	Elements of Computer Science & Engineering	P.SRILATHA			

O. Subhashini

Class In-Charge

ch. Sautha

Time Table Coordinator



Head of The Department Dr. R. YADAGIRI RAO のないないないないないであってい

M.Sc., B.Ed., M. Tech(CSE)., Ph.D. Head of the Department Department of H&S SRI INDU INSTITUTE OF ENGG & TECH Satigudal " Ibrahimnatham (M) S.E. Net 501 510.



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Year & Semester: I-I

Branch: DATA SCIENCE

Subject Name: Engineering Chemistry Lab

Faculty Name: O. SUBHASHINI

EXTERNAL EXAM OUESTION PAPER

- 1.Estimate the total hardness of water by complexometric method using EDTA.
- 2. Estimate of an HCl by conductometric titration.
- 3.Estimate of Fe⁺²by potentiometry using by KMNO₄.
- 4. Determine the acid concentration by using P^H meter.
- 5.Estimate of an acetic acid by conductometric titration.
- 6. Determine the viscosity of a given liquid by using Ostwald's viscometer.
- 7. Write about preparation of Bakelite.
- 8. Write about preparation of nylon -6,6.
- 9. Determine the acid value of coconut oil.
- 10. Determine the surface tension of given liquid by using stalagmometer.



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https://snet.ac.n

EC Lab External Time Table Examination Branch

A.Y.: 2022-23

SEM-I

DATE	Day	Branch	Session	HT.No	Total No of Students
11-3-2023	SATURDAY	CSE-A	FN	22X31A0501 TO 22X31A0565	65
11-3-2023	11-3-2023 SATURDAY		AN	22X31A0566 TO 22X31A05D0	65
13-3-2023	MONDAY	CSE-C	FN	22X31A05D1 TO 22X31A05J1	61
13-3-2023	MONDAY	CYBER SECURITY	AN	22X31A6201 TO 22X31A6262	62
14-3-2023	TUESDAY	DS	FN	22X31A6701 TO 22X31A6764	64

FN: 9:40am to 12:25pm AN: 1:00pm to 4:00pm

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EC Lab External Time Table with examiners SEM-I

DATE	Day	Branch	Session	HT.No	Total No of Stude nts	Internal Examiner	External Examiner
11-3-2023	SATURDAY	CSE-A	FN	22X31A0501 TO 22X31A0565	65	O.SUBHASHI NI	A. Koteswarao (Asst.Prof) TKRCET 8179731744
11-3-2023	SATURDAY	CSE-B	AN	22X31A0566 TO 22X31A05D0	65	V.MOUNIKA	A.Koteswarao (Asst.Prof) TKRCET 8179731744
13-3-2023	MONDAY	CSE-C	FN	22X31A05D1 TO 22X31A05J1	61	K.MOUNIKA	S. Anusha (Asst.Prof) TKRCET 9908590046
13-3-2023	MONDAY	CYBER SECUR ITY	AN	22X31A6201 TO 22X31A6262	62	K.MOUNIKA	S. Anusha (Asst.Prof) TKRCET 9908590046
14-3-2023	TUESDAY	DS	FN	22X31A6701 TO 22X31A6764	64	O.SUBHASHI NI	U.Anand (Asst.Prof) TKRCET 9848376155

A.Y.: 2022-23

FN: 9:40am to 12:25pm AN: 1:00pm to 4:00pm

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SEM-I



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LAB OCCUPANCY CHART

ENGINEERING CHEMISTRY LAB

Class: I B.Tech

Semister-1

W.E.F-14-11-2022

LH:B-104

	I 0.40.10.20	II	III	12 10	IV	V	VI	VII
	9:40-10:30	10:30 -11:20	11:20-12:10	12:10- 12.45	12.45-1.35	1.35-2.25	2.25-3.15	3.15- 4.00
MON	M	AINTAINANCE		_	I BTE			
TUE	I F	BTECH I SEM CSE-	В]			
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LAB OCCUPANCY CHART

ENGINEERING CHEMISTRY LAB

Class: I	B.Tech	Semister-	-1	W.E.F-14	-11-2022	LI		
	I 9:40-10:30	II 10:30 -11:20	III 11:20-12:10	12:10- 12.45	IV 12.45-1.35	V 1.35-2.25	VI 2.25-3.15	VII 3.15- 4.00
MON	MAIN	ITAINANCE		L				
TUE								
WED				C H				
THU	Ι	BTECH I SEM CSE	-В		I BTEC	H I SEM DATA	A SCIENCE	
FRI	I BT	ECH I SEM CYBER	SECURITY		Ν	MAINTAINAN	CE	
SAT	I	BTECH I SEM CSE	-A			I BTECH I SEN	A CSE-C	

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ENGINEERING CHEMISTRY LAB

Course: B. Tech. I Year

SUB CODE:CH106BS

Do's

1. Attend all the practical classes with

a) Observation note book b) Chemistry practical manual c) A neat hand kerchief

2.Follow the instructions of your Lecturer carefully.

3. Read the experiment perfectly before starting.

4. Take the required apparatus and clean them.

5. The observations should be in noted in the note book immediately.

6.Clean the apparatus immediately after the experiment and return to the concerned lab incharge.

7.Do the calculation and get the signature of Lecturer on the observation note book.

8. Always throw the pieces of papers, broken glass pieces etc., in a waste basket only.

9. The observations and calculations should be recorded neatly in the record book and submit the same of the lecturer.

<u>Don'ts</u>

1. Don't handle the apparatus roughly; it leads in damage (or)breakage.

2. Don't perform the experiment with incomplete knowledge, it may lead you in confusion.

3.Don't use excess amount of chemicals (or) reagents.

4.Don't consult your fellow student, if you have doubt in the experiment, consult Lecturer only.

5.Don't throw any solid matter in the sink. Don't waste the chemical or reagent.

6. Don't taste any chemical and inhale poisonous gases.

7. Don't waste the water. If it is not required, the tap must be closed.

8. Don't leave the laboratory unless your work bench is clean and all the apparatus is returned to the attender.







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PHYSICAL LAB FLOOR-1 PLAN



Lab area in sq.m=9.198*9.80=90.14 Lab area in sq.ft =30.18*32.15=970.287

LAB charge in

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Lab manual link

https://drive.google.com/file/d/1kd3ieekIp3ipx4CgNmOaQkWM6KYWiTc/view?usp=sharing

	SRI INDU IN	STITUTE	OF ENGINI	EERING AN	D TECHNOLOGY									
Gaune	86.	Departme	nt of Humanities	and Sciences										
Str.	1													
100	and the second se		Course Ou	tcome Attainme	nt (Internal Examination	1-1)								
Name	of the faculty :	O SUBHASH	INI	Academic Year:	2022-23									
Branch	w Section:	DATA SCIEN	ICE	Examination:	INTERNAL -I									
LahC	ourse Name:	FNGINEERING	CHEMISTRY	Year/semester	И		 							
Luo C		LI TOIL LEIGHTO		1 curseniester										
S No	HT No	P:O:A	VIV	F+F+P				D.O.A	. DECODD	OPSEDV	TION	TANDANCI	F	1
Max M	arke>	10 10	10	10			 	K+O+A	. KECOKD	TODSERV	AHONTAL	TANDANCI	<u>-</u>	
1	2283146701	9	9	8				V+V•V	IVA VOICE				<u> </u>	
2	22X31A6702	9	5	8					I'M TOICE					
3	22X31A6703	10	9	8				E+E+R:	EXPERIME	NT WRITE	UP+EXECU	TION+RES	ULT	
4	22X31A6704	10	9	8										
5	22X31A6705	9	9	8										
6	22X31A6706	9	7	8			 							
7	22X31A6707	10	8	8			 							
8	22X31A6708	9	8	8			 							
9	22X31A6710	9	9	8										
10	22X31A6711	9	8	7			 							
12	22X31A6712	9	6	10									1	
13	22X31A6713	10	8	10										
14	22X31A6714	10	10	9										
15	22X31A6715	10	9	10										
16	22X31A6716	9	8	9									<u> </u>	
17	22X31Ab/1/	10	5	10										
18	2273140/10	9	9	10										
20	22X31A6720	9	5	8			 							
21	22X31A6721	10	8	9										
22	22X31A6722	10	8	10										
23	22X31A6723	9	6	10										
24	22X31A6724	9	9	9			 							
25	22X31A6725	8	6	10										
26	22X31A6/26	10	9	10										
27	22X31A6728	9	8 5	8										
29	22X31A6729	10	6	10										
30	22X31A6730	8	6	9										
31	22X31A6731	9	5	8										
32	22X31A6732	A	A	Α										
33	22X31A6733	10	9	10			 							
34	22X31A6/34	10	9	10			 							
35	22X31A0735	A 10	9 9	10 A			 							
37	22X31A6737	10	9	10			 							
38	22X31A6738	9	7	10										
39	22X31A6739	9	4	9										
40	22X31A6740	9	5	9										
41	22X31A6741	9	4	8			 							
42	22X31A6742	9	7	8			 	 						
45	22X3146743	10	6	9 10	l		 	 						
45	22X31A6745	10	9	10										
46	22X31A6746	10	7	10										
47	22X31A6747	10	9	10										
48	22X31A6748	10	9	10										
49	22X31A6749	9	8	10									ļ	
50	22X31A6750	10	6	9									<u> </u>	
52	22X31A0/51 22X31A6752	10	9	10	l									
53	22X31A6753	10	6	9			 							
54	22X31A6754	10	9	10									1	
55	22X31A6755	9	6	8										
56	22X31A6756	9	5	8										
57	22X31A6757	9	6	8										
58	22X31A6758	10	6	8									L	
59	22X31A6760	10	5	10										
61	22X31A6761	10	6	10										
62	22X31A6762	10	7	10	{								1	
63	22X31A6763	10	8	10										
64	22X31A6764	10	8	10										
1	1	1	1	1	1									

Target se HoD	et by the faculty /	6.00	6.00	6.00				
Number of performe	of students d above the target	62	51	62				
Number attempte	of students d	64	64	64				
Percenta scored r	ge of students nore than target	97%	80%	97%				
<u>CO Map</u>	ping with Exam Que	stions:						
	CO 1	V	V	V				
	$\frac{1}{1}$	I V	I V	I V				
	CO 2	Y	Y	Y				
	$\frac{1}{10-4}$	Ŷ	Ŷ	Y				
	CO - 5							
	CO - 6							
CO Atta	inment based on Exa	m Questions:						
	CO - 1	97%	97%	97%				
	CO - 2	97%	97%	97%				
	CO - 3	97%	97%	97%				
	CO - 4							
	CO - 5							
	CO - 6							
	0	Intrnal practical	F+F+P	Quarall	Loval	Attainma	nt Loval	
	<u>CO-1</u>	97%	97%	97%	3	1	40%	
	CO-2	97%	97%	97%	3	2	50%	
	<u> </u>	97%	97%	97%	3	3	60%	
	<u> </u>	2110	2170	2170	5	5	0070	
	CO F							
	CO-5							
			• .• \					
	Attainment (Internal I Ex	xamination) =	3			

	SRI INDU IN	STITUTE	OF ENGIN	EERING ANI	DTECHNOLOGY									
(A)		Departme	nt of Humanities	and Sciences										
All Stands														
			Cour	se Outcome Atta	inment (Internal Exami	ination-2)								
Name	of the faculty :	O SUBHASH	INI	Academic Year:	2022-23									
Branch	n & Section:	DATA SCIEN	ICE	Examination:	INTERNAL -I	II	 							
Lab C	ourse Name:	ENGINEERING	CHEMISTRY	Year/semester	I/I		 							
							 						<u> </u>	
S.No	HT No.	R+O+A	V+V	E+E+R	ppt	<u> </u>	 	R+C	+A:RECOR	D+OBSERV	ATION+AT	TANDANC	\$	
Max. M	arks ==>	10	10 °	10	10		 	¥7. ¥		P			Ĺ	
2	22X31A6701	9	5	10	10	1	 	V+ V	: VIVA VOIC	L				
3	22X31A6703	10	9	10	10]		E+E	+R:EXPERIM	ENT WRITE	UP+EXECU	TION+RES	ULT	
4	22X31A6704	10	9	10	10]	 							
5	22X31A6705	10	8	10	10		 							
7	22X31A6706	10	8	10	10	-	 							
8	22X31A6708	9	8	10	10	1								
9	22X31A6709	9	8	10	10]								
10	22X31A6710	10	8	10	10	<u> </u>	 							
12	22X31A6711	9	9	10	10	-	 							
13	22X31A6713	10	8	10	10	-	 							
14	22X31A6714	10	9	10	10]								
15	22X31A6715	10	9	10	10	{	 							
16	22X31A6/16	9	6	10	10	1	 							
18	22X31A6718	10	10	10	10	1								
19	22X31A6719	10	7	10	10]								
20	22X31A6720	10	6	10	10		 							
21	22X31A6/21	10	/	10	10	-								
22	22X31A6723	10	6	9	10	-								
24	22X31A6724	10	9	10	10									
25	22X31A6725	9	7	10	10									
26	22X31A6726	10	9	10	10									
27	22X31A6727 22X31A6728	10	6	10	10	-								
29	22X31A6729	9	7	10	10									
30	22X31A6730	9	8	10	10									
31	22X31A6731	10	9	10	10		 							
32	22X31A6732	A 10	9 9	A 10	A 10	-								
34	22X31A6734	10	9	10	10	-								
35	22X31A6735	A	А	A	A									
36	22X31A6736	10	10	10	10	_								
3/	22X31A6/3/ 22X31A6/38	10	5	10	10	{	 							
39	22X31A6739	8	5	9	10	-								
40	22X31A6740	9	5	9	10]								
41	22X31A6741	9	6	9	10	-	 							
42	22X31A6742	9	9	10	10									
44	22X31A6744	10	6	10	10									
45	22X31A6745	10	10	10	10									
46	22X31A6746	10	8	10	10									
4/	22X31A0/4/ 22X31A6748	9	10	10	10	{								
49	22X31A6749	9	4	10	10	1								
50	22X31A6750	10	9	10	10	1								
51	22X31A6751	10	9	10	10	-	 							
52	22X31A6752 22X31A6753	10	6	9	10	-	 							
54	22X31A6754	10	8	10	10	1								
55	22X31A6755	9	6	8	10]								
56	22X31A6756	9	6	9	10									
57	22X31A0/5/ 22X31A6758	8	5	10	10	1	 							
59	22X31A6759	10	9	10	10	1								
60	22X31A6760	10	9	10	10]								
61	22X31A6761	9	7	10	10									
62	22X31A6762	10	8	10	10	{								
64	22X31A6764	9	9	10	10	1				-				
]								
<u> </u>						{	 							
						1								

Target s HoD	et by the faculty /	6.00	6.00	6.00	6.00			
Number perform	of students ed above the target	62	55	62	62			
Number attempte	of students	64	64	64	64			
Percentage of students scored more than target		97%	86%	97%	97%			
<u>CO Ma</u>	ping with Exam Que	stions:						
	CO - 1							
	CO - 2							
	CO - 3							
	CO - 4	Y	Y	Y	Y			
	CO - 5	Y	Y	Y	Y			
	CO - 6	Y	Y	Y	Y			
CO Atta	ainment based on Exa	am Questions:						
	CO - 1							
	CO - 2							
	CO - 3							
	CO - 4	97%	86%	97%	97%			
	CO - 5	97%	86%	97%	97%			
	CO - 6	97%	86%	97%	97%			
	co	Intrnal practical	F+F+R	ppt	Overall	Level	Attainmen	nt Level
	CO-1	init nui pritetteu	LILIK	PP*			1	40%
	CO-2						2	50%
	CO-3						3	60%
CO-3 CO-4		91%	97%	97%	95%	3		
CO-5		91%	97%	97%	95%	3		
	CO-6	91%	97%	97%	95%	3		
	Attainmant (.)	2010			
	Attainment (mernal 2 E	xaminatior	i) =		3		

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY Department of Humanities and Sciences												
Constanting of the second		Department of Hu	manitie	es and Scie	nces							
		Course Outcome Attainment	(Unive	ersity Exa	<u>minations)</u>							
Name	of the faculty :	O SUBHASHINI		Academic	Year:	2022-23						
Branch	1 & Section:	DATA SCIENCE		Year / Sen	nester:	I/I						
Lab C	ourse Name:	ENGINEERING CHEMISTRY	_									
S.No	Roll Number	Marks Secured	_	S.No	Roll Number	Marks Secured						
1	22X31A6701	51	_	33	22X31A6733	59						
2	22X31A6702	46	_	34	22X31A6734	58						
3	22X31A6703	58	_	35	22X31A6736	59						
4	22X31A6704	58		36	22X31A6737	53						
5	22X31A6705	57		37	22X31A6738	52						
6	22X31A6706	45	_	38	22X31A6739	48						
7	22X31A6707	49	_	39	22X31A6740	45						
8	22X31A6708	48		40	22X31A6741	49						
9	22X31A6709	50		41	22X31A6742	54						
10	22X31A6710	47	<u> </u>	42	22X31A6743	56						
11	22X31A6711	50	<u> </u>	43	22X31A6744	55						
12	22X31A6712	46		44	22X31A6745	59						
13	22X31A6713	45		45	22X31A6746	57						
14	22X31A6714	48		46	22X31A6747	59						
15	22X31A6715	57		47	22X31A6748	58						
16	22X31A6716	49		48	22X31A6749	50						
17	22X31A6717	47		49	22X31A6750	59						
18	22X31A6718	59		50	22X31A6751	58						
19	22X31A6719	51		51	22X31A6752	50						
20	22X31A6720	58		52	22X31A6753	49						
21	22X31A6721	52		53	22X31A6754	59						
22	22X31A6722	50		54 22X31A6755		51						
23	22X31A6723	47		55	22X31A6756	49						
24	22X31A6724	58		56	22X31A6757	49						
25	22X31A6725	50		57	22X31A6758	49						
26	22X31A6726	59		58	22X31A6759	59						
27	22X31A6727	50		59	22X31A6760	58						
28	22X31A6728	52		60	22X31A6761	51						
29	22X31A6729	54		61	22X31A6762	55						
30	22X31A6730	49		62	22X31A6763	57						
31	22X31A6731	54		63	22X31A6764	58						
32	22X31A6732	A										
					1	1						
					1							
					1							
	<u> </u>				1							
				1	+							
			-									
Class A	verage mark	1	E 2		Attainment I evol	% students						
Number	of students perfor	med above the target	23		1	10 5 tudentis						
Number	of successful stud	ente	29			40% 500/						
Percont	age of students soo	ared more than target	63		2	50%						
			46%		3	60%						
Attai	nment level		2									

SRI INDU I	NSTITU	UTE OF EN	GINEE	RING AND 7	FECHNOLOG	Ϋ́
SVV	Departme	nt of Humanities	and Scien	ces		
A A A A A A A A A A A A A A A A A A A		Course Ou	<u>tainment</u>	1		
BROWNPATHON .						
Name of the faculty	O SUBHA	ASHINI		Academic Year:	2022-23	
Branch & Section:	DATA SC	CIENCE		Year / Semester:	: I/I	
Lab Course Name:	ENGINEER	ING CHEMISTRY				
Course Outcomes	1st Internal Exam	2nd Internal Exam	Internal Exam	University Exam	Attainment Level	
C01	3.00		3.00	2.00	2.70	
CO2	3.00		3.00	2.00	2.70	
CO3	3.00		3.00	2.00	2.70	
CO4		3.00	3.00	2.00	2.70	
CO5		3.00	3.00	2.00	2.70	
CO6		3.00	3.00	2.00	2.70	
Inter	nal & Unive	ersity Attainment:	3.00	2.00		
		Weightage	70%	30%		
CO Attainment for the	course (Int	ernal, University)	2.10	0.60		
CO Attainment for	the course (Direct Method)		2.70		
Overall co	urse a	ttainmen	t leve	el	2.70	

SRI INDU INSTITUTE OF ENGINEERING & TECHNOLOGY															
STATE OF COMPANY	A PILL			De	partm	nent c	of Hur	naniti	es an	nd Sci	ience	S			
Constanting of the second	Moulo		I	Progra	am Out	tcome	Attair	ment	(from	Cour	<u>se)</u>				
BIRADULENATION	/														
Name of	f Facu	lty:	O SUE	BHASH	INI			Acad	emic Y	Year:	2022-	23			
Branch &	& Sect	ion:	DATA	SCIE				Year	/ Sem	ester:	1/1				
Course	vame	: 	ENGI	NEERI	NG CHE		Υ								
CO-PO n	nappi	ng													
	PO1	P02	PO3	PO4	PO5	PO6	PO7	POS	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1													1001	1302	
CO1	2	2			1		1								
CO3	2	1		1	1		1	<u> </u>							
CO4	2		2		1	1									
C05	2	1					1								
06	2	1		1		1	1								
Course	2.00	1.40	2.00	1.00	1.00	1.00	1.00								
		11.10		1100	1100	1100	1100								
со					Cou	irse C	outcom	e Atta	inme	nt					
							2.70)							
CO1															
							2.70)							
CO2															
							2.70)							
CO3															
60 4							2.70)							
04							זד ר	<u>ן</u>							
COF							2.70	J							
							2 7()							
CO6						1	2.70	5	-						
Overall	cour	se att	tainm	ent l	evel				2	2.70				<u> </u>	
PU-ATT			PO3		PO5	POG	PO7	POS	PUO	PO10	PO11	PO12			
6			103	104	105		107		103	1010		1012	1		
Attainm															
ent 1.80 1.26 1.80 0.90 0.90 0.90 0.90															
CO contri	ibutior	n to PO) - 33%	, 67%,	100% (L	evel 1/	(2/3)								