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
ESTD : 2007
EAMCET CODE: INDI
Approved by AICTE, New Delhi, & Affiliated to JNTUH, Hyderabad.
JNTUH CODE: X3

COURSE FILE

ON

ENGINEERING CHEMISTRY LAB

CourseCode-CH206BS

IB.TechSemester-II
A.Y.2022-2023

Preparedby
V.MOUNIKA
Asst.Professor

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

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

Name of the Physical laboratory:	ENGINEERING CHEMISTRYLAB
Course code	CH206BS
Room No	D-103&B-104
Name of the lab in charge	K.MOUNIKA
Name of the faculty in charge	V.MOUNIKA

Index of LabFile

S.No.	Name of the content
1	Institute vision and mission
2	Programme outcomes
3	Course Syllabus with Structure
4	Course Outcomes(CO)and CO-PO mapping
5	List of experiments and their CO, PO mapping
6	Timetable
7	Model Practical End examination questions
8	Schedule of end practical examinations
9	List of examiners
10	Lab occupancy chart
11	Dos and Don'ts
12	Physical lab floor plan with area in Sq.m
13	Lab manual
14	CO-PO Attainments

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 throughinstitute-industry collaboration.
- **IM3:**To be a centre of excellence for innovative and emerging fields in technologydevelopmentwithstate-of-artfacilitiestofacultyandstudents' fraternity.
- **IM4:**ToCreateanenterprisingenvironmenttoensureculture,ethicsand socialresponsibilityamongthestakeholders.

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

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

PROGRAMMEOUTCOMES

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 engineeringproblemsreachingsubstantiatedconclusionsusingfirstprinciplesofmathematics, natural sciences, and engineering sciences.

PO3:Design/DevelopmentofSolutions: Designsolutionsforcomplexengineering 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 , 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.

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V) Ibrahimpatnam (M) R.R. Dist-501 510

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(AnAutonomousInstitutionunderUGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(ApprovedbyAICTE, NewDelhiandAffiliatedtoJNTUH,Hyderabad)
KhalsaIbrahimpatnam,Sheriguda(V),Ibrahimpatnam(M),RangaReddyDist.,Telangana–501510
Website:https://siiet.ac.in/

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

I Year I Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1.	MA101BS	Matrices and Calculus	3	1	0	4
2.	AP102BS	Applied Physics	3	1	0	4
3.	CS103ES	Programming for Problem Solving	3	0	0	3
4.	ME102ES	Engineering Workshop	0	1	3	2.5
5.	EN104HS	English for Skill Enhancement	2	0	0	2
6.	CS106ES	Elements of Computer Science & Engineering	0	0	2	1
7.	AP105BS	Applied Physics Laboratory	0	0	3	1.5
8.	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1
9.	EN107HS	English Language and Communication Skills Laboratory	0	0	2	1
10.	*MC101ES	Environmental Science	3	0	0	0
11.		Induction Programme				
		Total	**14**	**3**	**12**	**20**

I Year II Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1.	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4
2.	CH203BS	Engineering chemistry	3	1	0	4
3.	ME201ES	Computer Aided Engineering Graphics	1	0	4	3
4.	EE201ES	Basic Electrical Engineering	2	0	0	2
5.	EC201ES	Electronic Devices and Circuits	2	0	0	2
6.	CH206BS	Engineering chemistry laboratory	0	0	2	1
7.	EE202ES	Basic Electrical Engineering Laboratory	0	0	2	1
8.	CS201ES	Python Programming Laboratory	0	1	2	2
9.	CS203ES	IT Workshop	0	0	2	1
		Total	**11**	**3**	**12**	**20**

ENGINEERING CHEMISTRYLABORATORY
(CourseCode:CH206BS)

B.Tech. IYear IISem.

L	T	P	C
0	0	2	1

Prerequisites :ENGINEERING CHEMISTRY

CourseObjectives: The course consists of experiments related to the principlesof 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 per form estimations of acids and bases using conductometry ,potentiometry and pH metry methods.
- StudentswilllearntopreparepolymerssuchasBakeliteandnylon-6 in the laboratory.
- Students will earn 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 metryinordertofindouttheconcentrationsorequivalencepointsofacids and bases.
- Studentsareabletopreparepolymerslikebakeliteandnylon-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}byPotentiomentry.

IV. **pH Metry:** Determination of an acid concentration using pH meter.

V. Preparations:

1. Preparation of Bakelite.
2. PreparationNylon–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.

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.

REFERENCEBOOKS:

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 5^{th} edition
3. Inorganic Quantitative analysis byA.I .Vogel ,ELBS Publications.

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

COURSEOUTCOMES

Course Name: ENGINEERING CHEMISTRY Lab(C126)

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

C126.1Determinationofparameters like hardness of water by the complexometric titrations (Understanding L2)

C126.2Studentscanableto perform the methods such as conductometry, pH metry to find out concentration of unknown solutions. (Applying L3)

C126.3 Students can determine the Potentiometry in order to find out the concentrations of acids and bases. (Applying L3)

C126.4 Students are able to synthesise Polymers-Bakelite & Nylon-6. (Applying L3)

C126.5Students can estimate the saponification value and viscosity of the lubricants. (Analyzing L4)

C126.6 They can able to demonstrate the rate of corrosion of mild steel in various conditions (Understanding L2)

COsandPOs&PSOsMapping

High-3 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
C126.1	2	2	-	-	-	-	1	-	-	-	-	-	-	-
C126.2	2	2	-	-	1	-		-	-	-	-	-	-	-
C126.3	2	1	-	1	1	-	1	-	-	-	-	-	-	-
C126.4	2	-	2	-	-	1		-	-	-	-	-	-	-
C126.5	2	1	-	-	-		1	-	-	-	-	-	-	-
C126.6	2	1	-	1	-	1	1	-	-	-	-	-	-	-
AVE	2.00	1.4	2.00	1.0	1.0	1.0	1.0	-	-	-	-	-	-	-

MAPPINGOFEXPERIMENTOUTCOMESWITH CO/PO'S/PSO

EXPERIMENT OBJECTIVES	EXPERIMENT OUTCOMES	CO	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.	C126.1	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.	C126.2	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.	C126.3	PO1,PO2, PO4,PO5, PO7
4.Toestimatetheamountof HCl present in the given Volume of test solution by P^H metry.	The students able to find out the concentrations of acids and bases.	C126.2	PO1,PO2 PO5
5.To prepare Bakelite polymer using Phenol and Formaldehyde.	The student shall be able to prepare the polymer of Bakelite	C126.4	PO1,PO3 PO6
6.To prepare Nylon-6,6 polymer using adipoyl chloride and hexamethylene diammine.	The students able to prepare the polymer of Nylon-6,6.	C126.4	PO1,PO3 PO6
7.Todeterminetheacidvalueof Coconut oil.	The student shall be able to identity and calculate the acid values of coconut oil.	C126.5	PO1,PO2 PO7

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.	C126.5	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.	C126.6	PO1,PO2 PO4,PO6 PO7
ADDITIONALEXPERIMENTS			
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.	C126.2	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	C126.5	PO1,PO2 PO7

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)

Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

KhalsaIbrahimpatnam, Sheriguda(V), Ibrahimpatnam(M), Ranga Reddy Dist., Telangana – 501 510

https://siiet.ac.in/

Class: IOT **Semester: II** **W.E.F-03-04-2023** **LH:-D-110**

	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	ITWS LAB			LUNCH	ODE	EDC	EC	ODE(T)/EC(T)
TUE	CAEG PRACTICE				BEE	BEE	ODE	EDC(T)/ BEE(T)
WED	EC	ODE	EDC		EC/BEE LAB			EC(T)/ODE(T)
THU	BEE	EC	ODE		CAEG PRACTICE			LIBRARY
FRI	BEE	EDC	EC		PYTHON LAB			BEE(T)/EDC(T)
SAT	EC/BEE LAB				ODE	EDC	BEE	PYTHON(T)

Course Code	Course Name	Name of the Faculty	Course Code	Course Name	Name of the Faculty
MA201BS	OrdinaryDifferentialEquationsandVectorCalculus	V.SUJATHA	CH206BS	EngineeringChemistryLaboratory	V.MOUNIKA/O.SUBHASHINI
CH203BS	EngineeringChemistry	V.MOUNIKA	EE202ES	BasicElectricalEngineeringLaboratory	S.NISCHALA/M.NAGARAJU
ME201ES	ComputerAidedEngineeringGraphics	M.YADHAGIRI	CS201ES	PythonProgrammingLaboratory	P.BALU/M.TEJASWI
EE201ES	BasicElectricalEngineering	S.NISCHALA	CS203ES	ITWorkshop	B.RAJITHA/N.KEERTHICHANDANA
EC201ES	ElectronicDevicesand Circuits	P.SRILATHA			

V. Sujatha

Class In-Charge

Time Table Coordinator

Sri Indu Institute of Engg. & Technology SHERIGUDA 501 510

Head of The Department

Sri Indu Institute of Engg. & Tech
Main Road, Sheriguda(V),
Ibrahimpatnam(M), R.R. Dist.
Telangana-501 510

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution ,Accredited by NAAC with A+ Grade

Recognized under2(f)ofUGCAct1956.

(Approved by AICTE ,New Delhi and Affiliated to JNTUH ,Hyderabad)

Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana - 501 510

X3

BR22

Lab External Question paper

Year& Semester :I-II

Branch :IOT

Subject Name :ENGINEERING CHEMISTRY Lab

Faculty Name :V.MOUNIKA

EXTERNALEXAM QUESTIONPAPER

1. Estimate the total hardness of water by complexometric method using EDTA.[CREATINGL6]
2. Estimate of an HCL by conductometric titration.[EVALUATING L5]
3. EstimateofFe+2byPotentiometryusingbykmno4.[EVALUATINGL5]
4. Determine the acid concentration by using PH meter.[EVALUATINGL5]
5. Estimate of an acetic acid by conductometric titration.[EVALUATINGL5]
6. Determine the viscosity of a given liquid by using Ostwald's viscometer.[EVALUATING L5]
7. Write about preparation of Bakelite.[REMEMBARINGL1]
8. Write about preparation of Nylon6,6.[REMEMBARING L1]
9. Determine the acid value of coconut oil.[REMEMBARING L1]
10. Determine the surface tension of agiven liquid by using stalagmometer.[REMEMBARINGL1]

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(AnAutonomousInstitutionunderUGC)

AccreditedbyNAACwithA+Grade,Recognizedunder2(f) ofUGCAct1956.

(ApprovedbyAICTE,NewDelhiandAffiliatedtoJNTUH,Hyderabad)

KhalsaIbrahimpatnam,Sheriguda(V),Ibrahimpatnam(M),RangaReddyDist.,Telangana–501510

https://siiet.ac.in/

EC Lab External Time Table
Examination Branch

A.Y.:2022-23 **SEM-II**

DATE	Day	Branch	Session	HT.No	TotalNo of Students
21-8-2023	MONDAY	ECE &CIV IL	FN	**22X31A0401 TO 22X31A0464 22X31A0101 TO 22X31A0103**	67
22-8-2023	TUESDAY	IOT	FN	**22X31A6901 TO 22X31A6963**	63
23-8-2023	WEDNESDAY	AI&ML-B	FN	**22X31A6651 TO 22X31A6697**	47
24-8-2023	THURSDAY	AI&ML-A	FN	**22X31A6601 TO 22X31A6650**	50
25-8-2023	FRIDAY	AI&DS	FN	**22X31A7201 TO 22X31A7264**	64

FN:9:40amto12:25pm

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

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

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(UGCAUTONOMOUSINSTITUTION)

AccreditedbyNAACA+Grade,Recognizedunder2(f)ofUGCAct1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

KhalsaIbrahimpatnam,Sheriguda(V),Ibrahimpatnam(M),RangaReddyDist.,Telangana–501510

EC Lab External Time Table

Examination Branch

A.Y:2022-2023 **SEM-II**

Date	Day	Branch	Session	HT.NO	Total No.of Students	Remarks	
						Internal examiner	Externalexaminer
21-08-2023	MONDAY	ECE & CIVIL	FN	22X31A0401 TO 22X31A0464 22X31A0101 TO 22X31A0103	67	O.SUBHASHINI	D.Swathi 7032248997 Asst.prof BIIET
22-08-2023	TUESDAY	IOT	FN	22X31A6901 TO 22X31A6963	63	V.MOUNIKA	Dr.Nagaveni 9959073712 Assoc.prof BIIET
23-08-2023	WEDNESDAY	AI&ML-B	FN	22X31A6651 TO 22X31A6697	47	O.SUBHASHINI	Dr.Rinkikumar 7488730602 Asst.prof BIIET
24-08-2023	THURSDAY	AI&ML-A	FN	22X31A6601 TO 22X31A6650	50	V.MOUNIKA	Dr.Litunswain 9489576721 Asst.prof BIIET
25-08-2023	FRIDAY	AI&DS	FN	22X31A7201 TO 22X31A7264	64	K.MOUNIKA	Dr.Shahroorasameen 9149454924 Asst.prof BIIET

FN:9:40AM to12:25PM

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

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

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(AnAutonomousInstitutionunderUGC)
Accredited byNAAC with A+Grade, Recognized under 2(f) of UGC Act 1956
(ApprovedbyAICTE, NewDelhiandAffiliatedtoJNTUH,Hyderabad)
KhalsaIbrahimpatnam,Sheriguda(V),Ibrahimpatnam(M),RangaReddyDist.,Telangana–501510

LAB OCCUPANCY CHART

ENGINEERING CHEMISTRY LAB

Class:IB.Tech **Semester-II** **LH:B-104**

	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	IBTECHIISEMAI&ML-A			**LUNCH**				
TUE	IBTECHIISEMAI&DS				IBTECHIISEMAI&ML-B			
WED	IBTECHIISEMECE				IBTECHIISEMIOT			
THU	MAINTAINANCE							
FRI								
SAT								

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V) Ibrahimpatnam (M) R.R. Dist-501 510

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

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(AnAutonomousInstitutionunderUGC)
Accredited byNAAC with A+Grade, Recognized under 2(f) of UGC Act 1956
(ApprovedbyAICTE, NewDelhiandAffiliatedtoJNTUH,Hyderabad)
KhalsaIbrahimpatnam,Sheriguda(V),Ibrahimpatnam(M),RangaReddyDist.,Telangana–501510

LAB OCCUPANCY CHART

ENGINEERING CHEMISTRY

LAB

Class:IB.Tech **Semister-II** **LH:D-103**

	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	MAINTAINANCE							
TUE								
WED								
THU					IBTECHIISEMAI&DS			
FRI	IBTECHIISEMAI&ML-A				IBTECHIISEMECE			
SAT	IBTECHIISEMIOT				IBTECHIISEMAI&ML-B			

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

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

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution under UGC)
Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956
(Approved by AICTE ,New Delhi and Affiliated to JNTUH ,Hyderabad)
KhalsaIbrahimpatnam, Sheriguda(V),Ibrahimpatnam(M) ,Ranga Reddy Dist., Telangana– 501510

ENGINEERING CHEMISTRY LAB

Do's

1. Attend all the practical classes with

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

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 immediate 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.

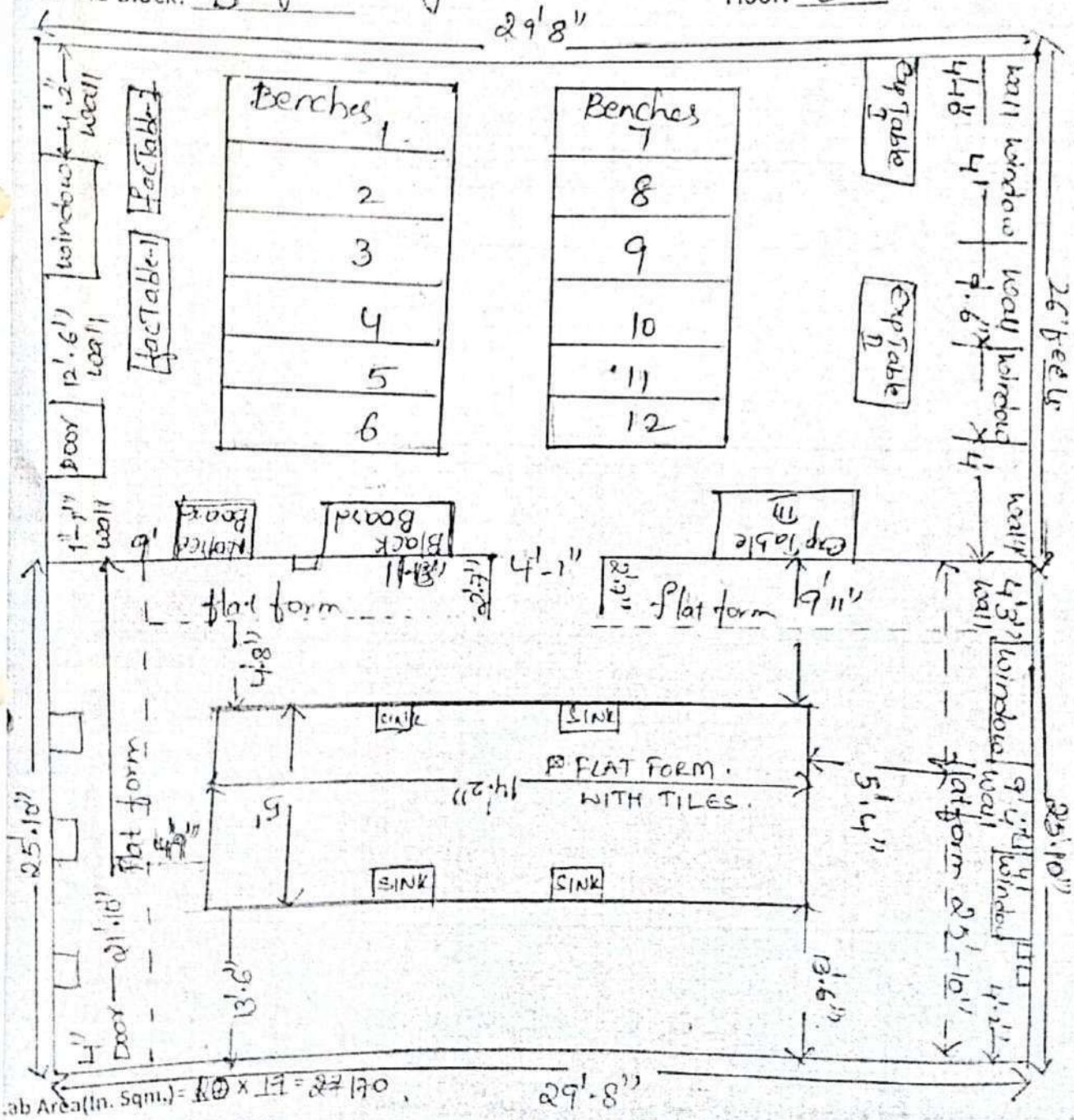
Don'ts

1. Don't handle the apparatus roughly ;it leads in damage(or)breakage.
2. Don't perform the experiment with in complete knowledge ,it may lead you in confusion.
3. Don 't use excess amount of chemicals(or)reagents.
4. Don't consult our 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.

SRI INDU INSTITUTE OF ENGINEERING & TECHNOLOGY
Sheriguda (V), Ibrahimpatnam (M), R.R.Dist-501 510
DEPARTMENT OF HUMANITIES AND SCIENCES

PHYSICAL LAB FLOOR PLAN

NAME: Engineering chemistry ROOM NO: B-104
ne of the Block: B Floor: I



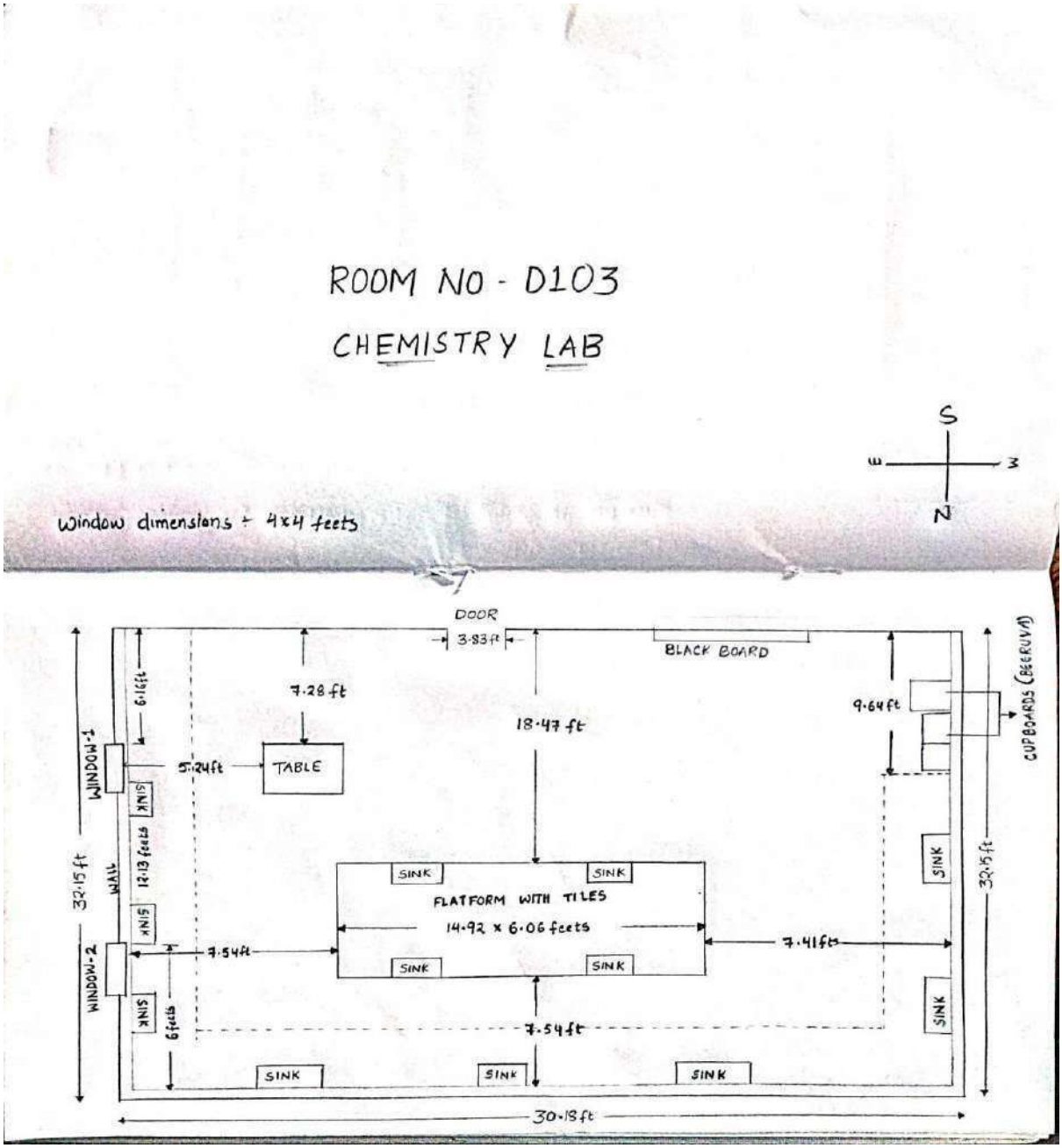
Lab Area(In. Sqm.)= 30 x 52 = 1560.

Lab Area (In. Sft.)= 30 x 52 = 1560

LAB In-charge

Head of the Department

PHYSICALLABFLOOR-1 PLAN



Lab area in sq.m=9.198*9.80=90.14

Labareainsq.ft=30.18*32.15=970.287

LAB in charge

Head of the Department
Department of H&S
SRI INDU INSTITUTE OF ENGG & TECH
Sheriguda(V) Ibrahimpatnam (M) R.R. Dist-501 510

Labmanuallink

https://drive.google.com/file/d/1QjP0tK0jpATEqLV1Wcww6fUdJzJ8mwi9/view?usp=sharing

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Departmentof HumanitiesandSciences

CourseOutcomeAttainment(InternalExamination-1)

Name of the faculty:	VMOUNIKA	AcademicYear:	2022-23
Branch&Section:	IOT	Examination:	INTERNAL-I
LabCourse Name:	ENGINEERING CHEMISTRY	Year/semester	I/II

S.No	HTNo.	R+O+A	V+V	E+E+R
Max.Marks==>		10	10	10
1	22X31A6901	10	9	10
2	22X31A6902	9	5	10
3	22X31A6903	10	9	10
4	22X31A6904	10	5	9
5	22X31A6905	9	4	10
6	22X31A6906	10	9	10
7	22X31A6907	5	5	9
8	22X31A6908	4	6	10
9	22X31A6909	10	9	10
10	22X31A6910	10	9	10
11	22X31A6911	10	8	10
12	22X31A6912	10	6	10
13	22X31A6913	10	8	10
14	22X31A6914	9	6	9
15	22X31A6915	9	5	9
16	22X31A6916	4	6	8
17	22X31A6917	4	6	10
18	22X31A6918			
19	22X31A6919	8	5	9
20	22X31A6920	10	4	10
21	22X31A6921	5	5	10
22	22X31A6922	9	5	8
23	22X31A6923	10	9	10
24	22X31A6924	9	5	8
25	22X31A6925	10	9	10
26	22X31A6926	10	7	10
27	22X31A6927	10	6	10
28	22X31A6928	10	9	10
29	22X31A6929	10	9	10
30	22X31A6930	8	7	10
31	22X31A6931	10	9	10
32	22X31A6932	7	6	7
33	22X31A6933	10	5	10
34	22X31A6934	10	8	10
35	22X31A6935	10	8	10
36	22X31A6936	10	9	10
37	22X31A6937	10	6	9
38	22X31A6938	10	10	10
39	22X31A6939	10	9	10
40	22X31A6940	9	7	10
41	22X31A6941	9	4	10
42	22X31A6942	9	10	10
43	22X31A6943	10	6	10
44	22X31A6944	10	9	10
45	22X31A6945	9	6	10
46	22X31A6946			
47	22X31A6947	10	9	10
48	22X31A6948	10	9	10
49	22X31A6949	10	7	10
50	22X31A6950	8	4	10
51	22X31A6951	8	8	10
52	22X31A6952	9	8	10
53	22X31A6953	10	9	10
54	22X31A6954	10	8	10
55	22X31A6955	9	6	10
56	22X31A6956	9	7	10
57	22X31A6957	9	8	10
58	22X31A6958	10	9	10
59	22X31A6959	9	5	10
60	22X31A6960	10	5	10
61	22X31A6961	9	9	10
62	22X31A6962	9	5	10
63	22X31A6963	10	9	10

R+O+A:RECORD+OBSERVATION+ATTANDANCE

V+V:VIVAVOICE

E+E+R:EXPERIMENTWRITEUP+EXECUTION+RESULT

Target set by the faculty / HoD	6.00	6.00	6.00
Number of students performed above the target	56	45	61
Number ofstudents attempted	61	61	61
Percentage of students scoredmore than target	92%	74%	100%

COMappingwithExamQuestions:

CO-1	Y	Y	Y
CO-2	Y	Y	Y
CO-3	Y	Y	Y
CO-4			
CO-5			
CO-6			

COAttainment basedonExamQuestions:

CO-1	92%	92%	100%
CO-2	92%	92%	100%
CO-3	92%	92%	100%
CO-4			
CO-5			
CO-6			

CO	Intrnalpractica	E+E+R	OverallI	Level
CO-1	92%	100%	96%	3
CO-2	92%	100%	96%	3
CO-3	92%	100%	96%	3
CO-4				
CO-5				
CO-6				
Attainment(Internal1Examination)=				**3**

AttainmentLevel	
1	40%
2	50%
3	60%

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities and Sciences

CourseOutcomeAttainment(InternalExamination-2)

Name of the faculty:	VMOUNIKA	AcademicYear:	2022-23
Branch&Section:	IOT	Examination:	INTERNAL-II
Lab Course Name:	ENGINEERING CHEMISTRY	Year/semester	I/II

S.No	HTNo.	R+O+A	V+V	E+E+R	ppt
Max.Marks==>		10	10	10	10
1	22X31A6901	9	9	10	10
2	22X31A6902	8	8	10	10
3	22X31A6903	9	10	10	10
4	22X31A6904	9	8	10	10
5	22X31A6905	8	7	10	10
6	22X31A6906	9	9	10	10
7	22X31A6907	9	7	9	10
8	22X31A6908	6	6	8	10
9	22X31A6909	10	8	10	10
10	22X31A6910	10	6	10	10
11	22X31A6911	10	9	10	10
12	22X31A6912	9	5	8	10
13	22X31A6913	10	8	10	10
14	22X31A6914	8	6	7	10
15	22X31A6915	9	6	8	10
16	22X31A6916	10	6	8	10
17	22X31A6917	7	5	7	10
18	22X31A6918	A	A	A	A
19	22X31A6919	8	5	7	10
20	22X31A6920	9	7	9	10
21	22X31A6921	10	6	10	10
22	22X31A6922	9	7	7	10
23	22X31A6923	10	9	10	10
24	22X31A6924	9	6	10	10
25	22X31A6925	10	9	10	10
26	22X31A6926	9	7	10	10
27	22X31A6927	9	6	7	10
28	22X31A6928	10	7	10	10
29	22X31A6929	10	8	10	10
30	22X31A6930	9	5	10	10
31	22X31A6931	10	9	10	10
32	22X31A6932	10	6	10	10
33	22X31A6933	6	6	8	10
34	22X31A6934	10	6	10	10
35	22X31A6935	9	6	8	10
36	22X31A6936	10	8	10	10
37	22X31A6937	9	6	8	10
38	22X31A6938	10	5	10	10
39	22X31A6939	9	5	10	10
40	22X31A6940	8	5	8	10
41	22X31A6941	6	5	8	10
42	22X31A6942	10	7	10	10
43	22X31A6943	9	5	8	10
44	22X31A6944	10	8	10	10
45	22X31A6945	10	9	10	10
46	22X31A6946	6	5	7	10
47	22X31A6947	9	5	10	10
48	22X31A6948	9	6	10	10
49	22X31A6949	10	5	10	10
50	22X31A6950	6	5	8	10
51	22X31A6951	9	4	8	10
52	22X31A6952	10	5	10	10
53	22X31A6953	9	5	10	10
54	22X31A6954	10	5	10	10
55	22X31A6955	7	5	7	10
56	22X31A6956	10	5	10	10
57	22X31A6957	9	5	7	10
58	22X31A6958	10	9	10	10
59	22X31A6959	9	5	9	10
60	22X31A6960	9	5	9	10
61	22X31A6961	10	7	10	10
62	22X31A6962	9	5	9	10
63	22X31A6963	10	5	10	10

R+O+A:RECORD+OBSERVATION+ATTANDANCE

V+V:VIVAVOICE

E+E+R:EXPERIMENTWRITEUP+EXECUTION+RESULT

Targetsetby thefaculty /HoD		6.00	6.00	6.00	6.00				
Number of studentsperformedabovethetarget		62	38	62	62				
Numberofstudentsattempted		63	63	63	63				
Percentage of studentsscoredmorethantarget		98%	60%	98%	98%				
COMappingwithExamQuestions:									
	CO-1								
	CO-2								
	CO-3								
	CO-4	Y	Y	Y	Y				
	CO-5	Y	Y	Y	Y				
	CO-6	Y	Y	Y	Y				
COAttainmentbasedonExamQuestions:									
	CO-1								
	CO-2								
	CO-3								
	CO-4	98%	60%	98%	98%				
	CO-5	98%	60%	98%	98%				
	CO-6	98%	60%	98%	98%				
	CO	**Intrnalpractica**	**E+E+R**	**ppt**	**OveralI**	**Level**		**AttainmentLevel**	
	CO-1							1	40%
	CO-2							2	50%
	CO-3							3	60%
	CO-4	79%	98%	98%	92%	3			
	CO-5	79%	98%	98%	92%	3			
	CO-6	79%	98%	98%	92%	3			
	Attainment(Internal2Examination) =					**3**			

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities and Sciences

Course Outcome Attainment (University Examinations)

Name of the faculty:	V.MOUNIKA	AcademicYear:	2022-23
Branch&Section:	IOT	Year/Semester:	I/II
Lab Course Name:	ENGINEERING CHEMISTRY		

S.No	RollNumber	MarksSecured	S.No	RollNumber	MarksSecured
1	22X31A6901	58	35	22X31A6935	57
2	22X31A6902	38	36	22X31A6936	58
3	22X31A6903	55	37	22X31A6937	50
4	22X31A6904	55	38	22X31A6938	53
5	22X31A6905	40	39	22X31A6939	52
6	22X31A6906	58	40	22X31A6940	50
7	22X31A6907	37	41	22X31A6941	45
8	22X31A6908	35	42	22X31A6942	54
9	22X31A6909	53	43	22X31A6943	56
10	22X31A6910	54	44	22X31A6944	55
11	22X31A6911	59	45	22X31A6945	42
12	22X31A6912	45	46	22X31A6946	48
13	22X31A6913	54	47	22X31A6947	45
14	22X31A6914	35	48	22X31A6948	55
15	22X31A6915	55	49	22X31A6949	50
16	22X31A6916	52	50	22X31A6950	50
17	22X31A6917	39	51	22X31A6951	53
18	22X31A6919	40	52	22X31A6952	57
19	22X31A6920	53	53	22X31A6953	57
20	22X31A6921	45	54	22X31A6954	57
21	22X31A6922	35	55	22X31A6955	45
22	22X31A6923	58	56	22X31A6956	52
23	22X31A6924	51	57	22X31A6957	45
24	22X31A6925	58	58	22X31A6958	55
25	22X31A6926	53	59	22X31A6959	45
26	22X31A6927	50	60	22X31A6960	47
27	22X31A6928	58	61	22X31A6961	55
28	22X31A6929	58	62	22X31A6962	45
29	22X31A6930	53	63	22X31A6963	57
30	22X31A6931	58			
31	22X31A6932	52			
32	22X31A6933	48			
33	22X31A6934	58			

		AttainmentLevel	%students
ClassAveragemark	51		
Numberofstudentsperformedabovethetarget	37	1	40%
Numberofsuccessfulstudents	62	2	50%
Percentageofstudentsscoredmorethantarget	60%	3	60%
Attainmentlevel	**3**		

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities and Sciences

CourseOutcomeAttainment

Nameofthefaculty	VMOUNIKA	AcademicYear:	2022-23
Branch&Section:	IOT	Year/Semester:	I/II
Lab Course Name:	ENGINEERING CHEMISTRY		

CourseOutcomes	1st Internal Exam	2ndInternal Exam	Internal Exam	UniversityExam	AttainmentLevel
CO1	3.00		3.00	3.00	3.00
CO2	3.00		3.00	3.00	3.00
CO3	3.00		3.00	3.00	3.00
CO4		3.00	3.00	3.00	3.00
CO5		3.00	3.00	3.00	3.00
CO6		3.00	3.00	3.00	3.00
Internal&UniversityAttainment:			3.00	3.00	
Weightage			70%	30%	
COAttainmentforthecourse(Internal,University)			2.10	0.90	
COAttainmentforthecourse(DirectMethod)			3.00		

Overallcourseattainmentlevel	**3.00**

SRIINDUINSTITUTEOFENGINEERING&TECHNOLOG

Department of Humanities and Sciences

Program OutcomeAttainment(from Course)

NameofFaculty:	VMOUNIKA	AcademicYear:	2022-23
Branch&Section:	IOT	Year/Semester:	I/II
CourseName:	ENGINEERING CHEMISTRY		

CO-POmapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2					1							
CO2	2	2			1									
CO3	2	1		1	1		1							
CO4	2		2			1								
CO5	2	1					1							
CO6	2	1		1		1	1							
Course	**2.00**	**1.40**	**2.00**	**1.00**	**1.00**	**1.00**	**1.00**							

CO	**CourseOutcomeAttainment**
CO1	3.00
CO2	3.00
CO3	3.00
CO4	3.00
CO5	3.00
CO6	3.00
Overallcourseattainmentlevel	**3.00**

PO-ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO Attainment	**2.00**	**1.40**	**2.00**	**1.00**	**1.00**	**1.00**	**1.00**					

COcontributiontoPO-33%,67%,100%(Level1/2/3)