



SASURIE COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai

Near NH544, Coimbatore Bypass, Near Vijayamangalam Tollgate, Tirupur 638056

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION - 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

SASURIE COLLEGE OF ENGINEERING



Criterion 1	Curricular Aspects	100
-------------	--------------------	-----

1.1 Curricular Planning and Implementation (20)

1.1.1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

Table of Contents

S.No	Description
1	Contents - Course File
2	Time table
3	Students Name List
4	Syllabus
5	Subject Information Record
6	Lesson Plan Schedule
7	Test plan for the Subject
8	Result Analysis
9	Corrective Action Report
10	Quality Objective monitoring record
11	Model Question paper
12	Internal Assessment test Answer Book
13	Assignment question paper
14	Assignment answer sheet



SASURIE
College of Engineering
Vijayamangalam, Tiruppur.

Department : SKH
Subject Code & Name : CY8151, Engineering Chemistry - I
Class & Batch : 1EEE & 2019-23
Semester : I

CONTENTS - COURSE FILE

S.NO	PARTICULARS	REMARKS
1	Time Table	
2	Student name list	
3	Student arrear list	
4	Subject Information Record	
5	Syllabus	
6	Lesson Plan	
7	Test Plan for the Subject	
8	Result Analysis	
9	Corrective Action Report	
10	Quality objective monitoring record	
11	Internal test mark sheet(Consolidated)	
12	Internal test question paper with answer key	
13	Model question paper with answer key	
14	Slip test question paper with answer key	
15	Sample Answer paper for all test(Min-3)	
16	Content beyond the syllabus	
17	Tutorial Class - schedule and content	
18	Assignment - schedule and paper	
19	PPP - handout	
20	Video - Animation - Soft copy	
21	Question bank	
22	Sample university question papers(min 5 QP-recent exam)	
23	Personal Log book - Updated	
24	Lecture Note	
25	Special Class if any, Approval letter, Schedule, content covered.	

Sign:	Prepared By 	Approved By
Name:	V. MYTHILI Faculty	I. JEENA RAJATHY HOD

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 058, Tirupur (Dt).

SASURIE
College of Engineering
Vijayamangalam, Tiruppur - 638 058



INDIVIDUAL TIME TABLE

SASURIE
COLLEGE OF ENGINEERING
Vijayamangalam

Faculty Name : MYTHILU V

Semester : I (2019-2020)

HOUR	I	II	III	IV	V	VI	VII	VIII	IX			
DAY/TIME	8.55 TO 9.00 a.m.	9.00 TO 9.50	9.50 TO 10.40	10.40 TO 10.55	10.55 TO 11.45	11.45 TO 12.35 p.m.	12.35 p.m. TO 1.20 p.m.	1.20 TO 2.05	2.05 TO 2.50	2.50 TO 3.00	3.00 TO 3.45	3.45 TO 4.30 p.m.
MONDAY	PRAYER		BREAK		LUNCH		BREAK		LUNCH		BREAK	
TUESDAY	1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE	
WEDNESDAY	1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE	
THURSDAY	1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE	
FRIDAY	1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE	
SATURDAY	1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE		1 - EEE	

S.No	Subject Code	Name of the Subject	Abbreviation	Name of the Staff & Dept.	No of hours
1	CY8151	Engineering Chemistry	CHEM	MYTHILU V	6
				TOTAL	6

Prepared by
 Sign: *A P Saravanan*
 Name: A P Saravanan

Verified by
 Sign: *J. Jeena Rajathi*
 Name: JEENA RAJATHI

Authorized by
 Sign: *Dr T S Sivakumaran*
 Name: Dr T S Sivakumaran

TIME TABLE I/IC

DR.M.VIJAYAKUMAR ME., Ph.D.
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 639 056, Tirupur (Dn).

SASURIE
College of Engineering
Vijayamangalam, Tirupur-639 056

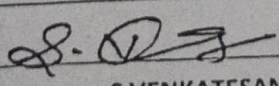
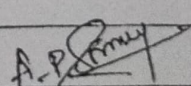
SASURIE
PRINCIPAL
College of Engineering
Vijayamangalam, Tirupur-639 056

NAME LIST OF THE STUDENTS


Department : S&H
Class : I EEE
Academic Year : 2019-2020

S.No.	Register No.	Name of the Student	Reg/Lat/Re-admn
1	732419105001	AJITH KUMAR S	REGULAR
2	732419105002	DINESH M	REGULAR
3	732419105003	MOHAN S	REGULAR
4	732419105004	NAVEENKUMAR A	REGULAR
5	732419105005	PRAVEEN KUMAR M	REGULAR

17

	Prepared By	Verified By
Sign		
Name	S VENKATESAN	I.JEENA RAJATHY
	Class Advisor	

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL

 **SASURIE COLLEGE OF ENGINEERING**
Vijayamangalam - 633 056, Tiruppur (Dt).

HOD
Head of S&H Department
SASURIE
College of Engineering
Vijayamangalam, Tiruppur-633 056

TEXT BOOKS:

1. Bhattacharya, D.K. & Poonam, T. "Engineering Physics", Oxford University Press, 2015.
2. Gaur, R.K. & Gupta, S.L. "Engineering Physics", Dhanpat Rai Publishers, 2012.
3. Pandey, B.K. & Chaturvedi, B. "Engineering Physics", Cengage Learning India, 2012.

REFERENCES:

1. Halliday, D., Resnick, R. & Walker, J. "Principles of Physics", Wiley, 2015.
2. Serway, R.A. & Jewett, J.W. "Physics for Scientists and Engineers", Cengage Learning, 2010.
3. Tipler, P.A. & Mosca, G. "Physics for Scientists and Engineers with Modern Physics", W.H. Freeman, 2007.

CY8151

ENGINEERING CHEMISTRY

L T P C
3 0 0 3

OBJECTIVES:

- To make the students conversant with boiler feed water requirements, related problems and water treatment techniques.
- To develop an understanding of the basic concepts of phase rule and its applications to single and two component systems and appreciate the purpose and significance of alloys.
- Preparation, properties and applications of engineering materials.
- Types of fuels, calorific value calculations, manufacture of solid, liquid and gaseous fuels.
- Principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells.

UNIT I WATER AND ITS TREATMENT

9

Hardness of water – types – expression of hardness – units – estimation of hardness of water by EDTA – numerical problems – boiler troubles (scale and sludge) – treatment of boiler feed water – Internal treatment (phosphate, colloidal, sodium aluminate and calgon conditioning) external treatment – Ion exchange process, zeolite process – desalination of brackish water – Reverse Osmosis.

UNIT II SURFACE CHEMISTRY AND CATALYSIS

9

Adsorption: Types of adsorption – adsorption of gases on solids – adsorption of solute from solutions – adsorption isotherms – Freundlich's adsorption isotherm – Langmuir's adsorption isotherm – contact theory – kinetics of surface reactions, unimolecular reactions, Langmuir - applications of adsorption on pollution abatement. Catalysis: Catalyst – types of catalysis – criteria – autocatalysis – catalytic poisoning and catalytic promoters - acid base catalysis – applications (catalytic convertor) – enzyme catalysis– Michaelis – Menten equation.

UNIT III ALLOYS AND PHASE RULE

9

Alloys: Introduction- Definition- properties of alloys- significance of alloying, functions and effect of alloying elements- Nichrome and stainless steel (18/8) – heat treatment of steel. Phase rule: Introduction, definition of terms with examples, one component system -water system - reduced phase rule - thermal analysis and cooling curves - two component systems - lead-silver system - Pattinson process.

UNIT IV FUELS AND COMBUSTION

9

Fuels: Introduction - classification of fuels - coal - analysis of coal (proximate and ultimate) - carbonization - manufacture of metallurgical coke (Otto Hoffmann method) - petroleum - manufacture of synthetic petrol (Bergius process) - knocking - octane number - diesel oil - cetane number - natural gas - compressed natural gas (CNG) - liquefied petroleum gases (LPG) - power alcohol and biodiesel. Combustion of fuels: Introduction - calorific value - higher and lower calorific values - theoretical calculation of calorific value - ignition temperature - spontaneous ignition temperature - explosive range - gas analysis (ORSAT Method).

REVISION
Date: _____
Page: _____

UNIT V ENERGY SOURCES AND STORAGE DEVICES

Nuclear fission - controlled nuclear fission - nuclear fusion - differences between nuclear fission and fusion - nuclear chain reactions - nuclear energy - light water nuclear power plant - breeder reactor - solar energy conversion - solar cells - wind energy. Batteries, fuel cells and supercapacitors: Types of batteries - primary battery (dry cell) secondary battery (lead acid battery, lithium-ion-battery) fuel cells - H_2-O_2 fuel cell.

TOTAL: 45 PERIODS

OUTCOMES:

- The knowledge gained on engineering materials, fuels, energy sources and water treatment techniques will facilitate better understanding of engineering processes and applications for further learning.

TEXT BOOKS:

- S. S. Dara and S. S. Umare, "A Textbook of Engineering Chemistry", S. Chand & Company LTD, New Delhi, 2015 *K. Baskaran*
- P. C. Jain and Monika Jain, "Engineering Chemistry" Dhanpat Rai Publishing Company (P) LTD, New Delhi, 2015
- S. Vairam, P. Kalyani and *Aruba Ramesh* "Engineering Chemistry", Wiley India PVT, LTD, New Delhi, 2013.

REFERENCES:

- Friedrich Emich, "Engineering Chemistry", Scientific International PVT, LTD, New Delhi, 2014.
- Prasanta Rath, "Engineering Chemistry", Cengage Learning India PVT, LTD, Delhi, 2015.
- Shikha Agarwal, "Engineering Chemistry-Fundamentals and Applications", Cambridge University Press, Delhi, 2015.

GE8151

PROBLEM SOLVING AND PYTHON PROGRAMMING

L T P C
3 0 0 3

OBJECTIVES:

- To know the basics of algorithmic problem solving
- To read and write simple Python programs.
- To develop Python programs with conditionals and loops.
- To define Python functions and call them.
- To use Python data structures — lists, tuples, dictionaries.
- To do input/output with files in Python.

UNIT I ALGORITHMIC PROBLEM SOLVING

Algorithms, building blocks of algorithms (statements, state, control flow, functions), notation (pseudo code, flow chart, programming language), algorithmic problem solving, simple strategies for developing algorithms (iteration, recursion). Illustrative problems: find minimum in a list, insert card in a list of sorted cards, guess an integer number in a range, Towers of Hanoi.

UNIT II DATA, EXPRESSIONS, STATEMENTS

Python interpreter and interactive mode; values and types: int, float, boolean, string, and list variables, expressions, statements, tuple assignment, precedence of operators, comments. Illustrative programs: exchange the values of two variables, circulate the values of n variable distance between two points.

Me
Dr.M.VIJAYAKUMAR ME., Ph.D.,

PRINCIPAL

SASURIE COLLEGE OF ENGINEERING,

Vijayamangalam - 638 056, Tirupur (Dt).

24

Head of S&M Department
SASURIE
College of Engineering,
Vijayamangalam, Tirupur-638 056.



SUBJECT INFORMATION RECORD

Department : SQ II

Subject : Engineering Chemistry -

Year : I

Semester : I

Last year handled by : B. Asha.

Percentage of Result (last year) : 68.5%

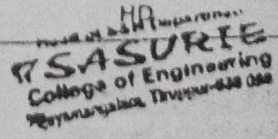
Quality Objectives : TO know the basic info of water treatment & eng application Basic concept - base mechanism.

Reference Book

i) S.S. Dara & S.S. Uma
"A text book of engine chemistry"

ii) Engineering chemistry
Sri Krishna Publication

	Prepared By	Approved By
Sign:		
Name:	V. MYTHILI	J. JEENA RAJATHY
	Faculty	





LESSON PLAN SCHEDULE

Department : S&H
 Faculty Name : V MYTHILI
 Subject Code & Title : CH8151 & ENGINEERING CHEMISTRY - I
 Class : **EEC**

Date : 13.04.2019
 Semester : I

S.No.	Proposed		Details of Topic Covered	TA	Ref.	Actual		HD
	Date	Period				Date	Period	
UNIT-I WATER AND ITS TREATMENT								
1	7.8.19	1	Hardness of water – types – expression of hardness – units	1	1,2	12.8.19	1	} T. Jee
2	8.8.19	6,7	Estimation of hardness of water by EDTA – numerical problems	1	1,2	19.8.19	3	
3	13.8.19	8	Boiler troubles (scale and sludge)	1	1,2	19.8.19	4	
4	14.8.19	1	Treatment of boiler feed water – Internal treatment	1	1,2	21.8.19	1	
5	19.8.19	3,4	External treatment – Ion exchange process.	1	1,2	21.8.19	2	
6	20.8.19	8	Zeolite process	1	1,2	22.8.19	6	
7	21.8.19	1	Portable water treatment – desalination of brackish water	1	1,2	22.8.19	7	
8	22.8.19	7,8	Reverse Osmosis	1	1,2	26.8.19	3	
9	26.8.19	3,4	UASB process (Upflow Anaerobic Sludge Blanket)	1	1,2	26.8.19	4	
UNIT-II SURFACE CHEMISTRY AND CATALYSIS								
10	27.8.19	8	Types of adsorption adsorption of gases on solids –adsorption of sc	1	1,2	28.8.19	1	} T. Jee
11	28.8.19	1	Adsorption isotherms – Freundlich's adsorption isotherm	1	1,2	29.8.19	6	
12	29.8.19	6,7	Langmuir's adsorption isotherm	1	1,2	29.8.19	7	
13	3.9.19	8	Contact theory – kinetics of surface reactions	1	1,2	9.9.19	3	
14	5.9.19	6,7	Unimolecular reactions	1	1,2	9.9.19	4	
15	10.9.19	8	Langmuir - applications of adsorption on pollution abatement	1	1,2	12.9.19	7	
16	12.9.19	6,7	Catalyst – types of catalysis – criteria – autocatalysis – catalytic p	1	1,2	12.9.19	8	
17	16.9.19	3,4	Acid base catalysis – applications (catalytic convertor) – enzyme catalysis	1	1,2	13.9.19	7	
18	17.9.19	8	Michaelis – Menten equation	1	1,2	13.9.19	8	
UNIT-III METALLURGY, ALLOYS AND PHASE RULE								
19	18.9.19	1	Minerals and ores – flux and slags – extraction of metal (Al only) – c	1	1,2	18.9.19	1	} T. Jee
20	19.9.19	6,7	Alloys Definition- properties of alloys- significance of alloying	1	1,2	18.9.19	7	
21	23.9.19	3,4	Functions and effect of alloying elements	1	1,2	18.9.19	8	
22	24.9.19	8	Nichrome and stainless steel (18/8) – heat treatment of steel	1	1,2	19.9.19	6	
23	25.9.19	1	Phase rule definition of terms with examples	1	1,2	19.9.19	7	
24	26.9.19	6,7	One component system -water system	1	1,2	19.9.19	8	
23	30.9.19	3,4	Reduced phase rule - thermal analysis and cooling curves	1	1,2	23.9.19	3	
24	1.10.19	8	Two component systems - lead-silver system	1	1,2	23.9.19	4	
25	3.10.19	6,7	Pattinson process	1	1,2	30.9.19	7	


Dr. M. VIJAYAKUMAR ME., Ph.D.
 PRINCIPAL
 SASURIE COLLEGE OF ENGINEERING,
 Vijayamangalam - 638 056, Tirupur (Dt).

UNIT-IV FUELS AND COMBUSTION						
26	7.10.19	3,4	Classification of fuels - coal - analysis of coal (proximate and ultimate)	1	1,2	20.9.19 8
27	8.10.19	8	Carbonization - manufacture of metallurgical coke (Otto Hoffmann method)	1	1,2	3.10.19 6
28	9.10.19	1	Petroleum - manufacture of synthetic petrol (Hargreaves process)	1	1,2	3.10.19 7
29	10.10.19	6,7	Knocking - octane number - diesel oil - cetane number	1	1,2	9.10.19 3
30	15.10.19	8	Natural gas - compressed natural gas (CNG) - liquefied petroleum gas	1	1,2	10.10.19 6
31	17.10.19	6,7	Combustion of fuels - calorific value - higher and lower calorific value	1	1,2	10.10.19 6
32	21.10.19	3,4	Theoretical calculation of calorific value	1	1,2	10.10.19 7
33	22.10.19	8	Ignition temperature - spontaneous ignition temperature	1	1,2	10.10.19 7
34	23.10.19	1	Explosive range - flue gas analysis (ORSAT Method)	1	1,2	11.10.19 5
UNIT-V ENERGY SOURCES AND STORAGE DEVICES						
35	24.10.19	6,7	Nuclear fission - controlled nuclear fission	1	1,2	11.10.19 6
36	28.10.19	3,4	Nuclear fusion - differences between nuclear fission and fusion	1	1,2	11.10.19 6
37	29.10.19	8	Nuclear chain reactions	1	1,2	11.10.19 4
38	29.10.19	8	Nuclear chain reactions	1	1,2	14.10.19 5
39	30.10.19	1	Nuclear energy - light water nuclear power plant	1	1,2	30.10.19 5
40	31.10.19	6,7	Breeder reactor	1	1,2	30.10.19 6
41	31.10.18	6	Solar energy conversion	1	1,2	31.10.19 6
42	4.11.19	3,4	Solar cells - wind energy	1	1,2	4.11.19 3
43	5.11.19	8	Types of batteries	1	1,2	5.11.19 8
44	6.11.19	1	Primary battery (dry cell)	1	1,2	6.11.19 1
45	7.11.19	6,7	Secondary battery (lead acid battery, lithium-ion-battery)	1	1,2	7.11.19 6
46	11.11.19	3,4	Fuel cells - H ₂ -O ₂ fuel cell	1	1,2	7.11.19 7
47	12.11.19	8	Methanol oxygen fuel cell	1	1,2	11.11.19 7
48	13.11.19	1	SOFC and supercapacitors	1	1,2	11.11.19 3

Reference books (Ref):

- 1.S.S.Dara and S.S.Umare, "A text book of ENGINEERING CHEMISTRY", S.Chand & company LTD New Delhi, 2015.
2. S. Vairam, P. Kalyani and Suba Ramesh "A text book of ENGINEERING CHEMISTRY", Wiley India PVT, LTD, New Delhi, 2013
3. Prasanta Rath, "Engineering Chemistry", Cengage Learning India PVT, LTD, Delhi, 2015.

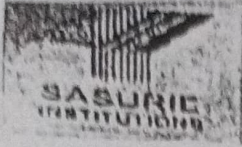
Teaching Aids (TA):

1. Conventional Teaching - CT
2. Power Point Presentation - PPT
3. Model Display - MD
4. Simulation - SIM
5. Practical Demonstration - PD
6. Animated Videos - AV
7. Cross Words - CW
8. Question and Answer - QA

	Prepared by	Verified by	Authorized by
Sign			
Name	V MYTHILI	I. Jeena Rajathy	Dr.T.S SIVAKUMARAN
Faculty		HD	Principal

Head of Section
SASURIE
 College of Engineering
 Vijayamangalam - 633 056, Tirupur (Dt).
Dr.M.VIJAYAKUMAR ME., Ph.D.
 PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
 Vijayamangalam - 633 056, Tirupur (Dt).

PRINCIPAL
SASURIE
 College of Engineering
 Vijayamangalam - 633 056, Tirupur (Dt)



TEST PLAN FOR SUBJECT

Subject : Engineering chemistry - I Faculty:

Semester : I Year: I

Department : SQH

S. No.	Description	Planned Date/Month	Actual Conducted Date / Month	Remarks
1	Slip Test I	06.09.19	06.09.19	
2	Slip Test II	26.09.19	26.09.19	
3	Slip Test III	15.10.19	15.10.19	
4	Slip Test IV	15.10.19	15.10.19	
5	Internal Test I	16.09.19	16.09.19	
6	Internal Test II	22.10.19	22.10.19	

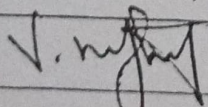
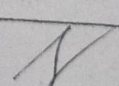
	Prepared By	Approved By
Sign:		
Name:	V. MYTHILI	I. JEENA RAJATHY
	Faculty	HD

RESULT ANALYSIS OF TEST & CORRECTIVE ACTION PLAN

Subject : Engineering chemistry - I Date : 18.9.19
 Class : I-EEE Department : S & H
 Semester : I
 Exam details & date : Internal Test - I 16.9.19
 Faculty : V. Mythili
 Number of students : 05
 No. of students attended : 05
 No. of students absent : -
 No. of students passed : 2
 No. of students failed : 3
 Percentage of failures : 60.

RESULT DATA:

Marks	0-25	26-50	51-75	76-90	91-100
No. of Students	—	2	2	1	—

	Prepared By	Approved By
Sign:		
Name:	V. MYTHILI	I. JEENA RAJATHY
	Faculty	HD

(Faint handwritten notes)

Head of S&H Department
SASURIE
 College of Engineering
 Vijayamangalam, Tirupur

Dr. M. VIJAYAKUMAR M.E., Ph.D.
 PRINCIPAL

CORRECTIVE ACTION REPORT

Dept. : S&H Year : I
Subject : Engineering Chemistry - I Semester : I

NON CONFORMANCE REPORT
Expected Result in 80% but achieved only 40%
DATE: 24/10/19. V. Mythili
Faculty Sign

ROOT CAUSE ANALYSIS
Lack of deviation knowledge & time management
DATE: 24/10/19. V. Mythili
Faculty Sign

CORRECTIVE ACTION
Retest will be conducted.
DATE: 24/10/19. V. Mythili
Fac

VERIFICATION OF CORRECTIVE ACTION
DATE: 24/10/19. V. Mythili
Faculty Sign

Prepared By	Approved By
Sign: V. Mythili	I. Jeena
Name: N. MYTHILI	I. JEENA RAJATHY
Dr. N. VIJAYAN, VICE CHIEF, PRINCIPAL SASURIE COLLEGE OF ENGINEERING Vijayanagara - 628 056, Hampur (DI)	HD SASURIE College of Engineering Vijayanagara - 628 056

RESULT ANALYSIS OF TEST & CORRECTIVE ACTION PLAN

Subject : Engineering chemistry - I Date : 18/11/19
 Class : I CIVIL Department : S&H
 Semester : I
 Exam details & date : 16.11.19 MODEL EXAMINATION
 Faculty : V. MYTHILI
 Number of students : 5
 No. of students attended : 5
 No. of students absent : -
 No. of students passed : 1
 No. of students failed : 4
 Percentage of failures : 80

RESULT DATA:

Marks	0-25	26-50	51-75	76-90	91-100
No. of Students	-	3	1	1	-

	Prepared By	Approved By
Sign:	<i>V. Mythili</i>	<i>I. Jeena Rajathy</i>
Name:	V. MYTHILI	I. JEENA RAJATHY
	Faculty	HD

(Faint stamp and handwritten notes)

Head of S&H Department
SASURIE
 College of Engineering
 Vijayamangalam, Tirupur-639 056
 Rev 0.0
Dr. M. VIJAYAKUMAR ME., Ph.D.,
 PRINCIPAL
 SASURIE COLLEGE OF ENGINEERING,
 Vijayamangalam - 639 056, Tirupur (Dt).



CORRECTIVE ACTION REPORT

Dept. : SPAI Year : I
Subject : Engineering & Chemistry - I Semester : I

NON CONFORMANCE REPORT

Expected result in 100%. but
achived only 0%. V. nyls

DATE: 18/11/19.

ROOT CAUSE ANALYSIS

Labe in equation balancing to
Derivation V. nyls.

DATE: 18/11/19.

CORRECTIVE ACTION

Assignment given.

V. nyls
Faculty Sign

DATE: 18/11/19.

VERIFICATION OF CORRECTIVE ACTION

V. nyls
Faculty Sign

DATE: 18/11/19.

	Prepared By	Approved By
Sign:	<u>V. nyls</u>	<u>I. Jeena</u>
Name:	<u>V. nyls</u>	<u>I. JEENA RAJATHY</u>
	Faculty	HD

Dr. M. VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

HD
SASURIE
College of Engineering
Vijayamangalam, Tirupur - 638 056

QUALITY OBJECTIVE MONITORING RECORD

Department : S&H

Year : I

Semester : I

Subject : Engineering Chemistry - I

S.No	Quality Objective	Internal Test-I		Internal Test-II		Internal Test-III	
		Expecting result	Obtained result	Expecting result	Obtained result	Expecting Result	Obtained result
	TO achieved 100% of result in this academic year	80	40	80	40	100	0

	Prepared By	Approved By
Sign:	<i>V. Mythili</i>	<i>I. Jeena Rajathy</i>
Name:	V. MYTHILI	I. JEENA RAJATHY
	FACULTY D.M. VIJAYAKUMAR M.E., Ph.D., PRINCIPAL	HD Head of S&H Department

Register Number:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SASURIE
INSTITUTIONSSASURIE
College of Engineering
Vijayamangalam, Tiruppur.

Model Examination - I

Course Code	CY8151	Course Title	ENGINEERING CHEMISTRY	Date/Session	16.11.2019/FN	Marks	100
Regulation	2017	Duration	3 Hours	Academic Year	2019-2020		
Year	I	Semester	I	Department	All branches		

COURSE OUTCOMES

CO1:	To make the students conversant with boiler feed water requirements, related problems and water treatment techniques
CO2:	Preparation, properties and applications of engineering materials.
CO3:	To develop an understanding of the basic concepts of phase rule and its applications to single and two component systems
CO4:	Types of fuels, calorific value calculations, manufacture of solid, liquid and gaseous fuels.
CO5:	Principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells.

No.	Questions	CO	BTS
-----	-----------	----	-----

PART A

(Answer all the Questions 10 x 2 = 20 Marks)

1	What are zeolites?	CO1	R
2	Bring out the difference between scale and sludge	CO1	A
3	Define acid-base catalysis with an example.	CO2	R
4	Distinguish between catalytic promoters and catalytic poisoner.	CO2	U
5	Write the mathematical expression of reduced phase rule	CO3	R
6	What is Pattinson process?	CO3	R
7	Define calorific value of a fuel.	CO4	R
8	Describe the process knocking	CO4	R
9	What is a moderator.	CO5	R
10	Write a principle of a fuel cell.	CO5	R

PART B

(Answer all the Questions 5 x 16 = 80 Marks)

11a	(i) What are a problem one would face when hard water is used in boiler industries. (10)	CO1	R
	(ii) Explain the mechanism of ion exchange process of water treatment. (6)	CO1	E

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPALSASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 633 056, Tiruppur (Dt).Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL

SASURIE COLLEGE OF ENGINEERING,

OR

11b	(i) Explain reverse osmosis process and its advantages. (10) (ii) Difference between temporary and permanent hardness. (6)	CO1 CO1	
12a	(i) Derive Langmuir adsorption isotherm. What are its limitations? (8) (ii) Derive Freundlich's adsorption isotherm. What are its limitations? (8)	CO2 CO2	

OR

12b	(i) Derive Michaelis-Menten equation for the rate of an enzyme catalysed reaction. Draw the rate curve and explain how [S] influence the rate. (10) (ii) Discuss the various types of acid-base catalytic reactions. (6)	CO2 CO2	
13a	(i) Discuss one component (water) system in detail. (10) (ii) Differentiate between hardening and nitriding heat treatment process (6)	CO3 CO3	U U

OR

13b	(i) Discuss two component (Pb-Ag) system. (10) (ii) What are the significance of alloying. (6)	CO3 CO3	U R
14a	(i) How are fuels classified? Give example for each. (6) (ii) Distinguish between ultimate and proximate analysis. (10)	CO4 CO4	R U

OR

14b	(i) Explain the function of Orsat process. (8) (ii) What are LPG and CNG? Discuss the advantages of LPG over gaseous fuel and CNG over LPG. (8)	CO4 CO4	E R
15a	(i) Explain the working of a Hydrogen Oxygen fuel cell. (8) (ii) Distinguish between Nuclear fusion and Nuclear fission. (8)	CO5 CO5	E U

OR

15b	(i) Describe the breeder reactor. (8) (ii) Explain the working of a lead acid battery. (8)	CO5 CO5	U E
-----	---	------------	--------

V. Mythili
15/11/19
V. Mythili
Course Faculty

(Name / Sign / Date)

P. Jeena Rajathy
15/11/2019
HOD

(Name / Sign / Date)

S. Siv
15-11-2019
Principal

(Name / Sign / Date)

Dr. M. VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL

SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

I. JEENA RAJATHY

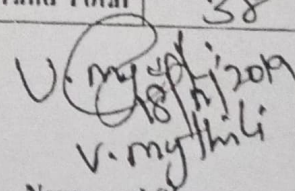
Dr. M. VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL

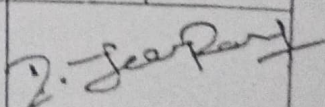
SASURIE COLLEGE OF ENGINEERING,

Internal Assessment Test Answer Book

Name	M. Dineth			Year/ Semester/Section	7/2
Register number	738419 05002	Date/Session	16.11.2019 7N	Department	EEE
Course code	CY8151	Course Title	Engineering chemistry		
Internal Assessment Test	IAT 1 <input type="checkbox"/>	IAT 2 <input type="checkbox"/>	IAT 3 <input type="checkbox"/>	Model	<input checked="" type="checkbox"/>
Name and Signature of the Invigilator with date	P. S. Sivarajani. P)				

Instruction to the Student: Put tick mark to the question attended in the column against question.

Part A			Part B/ Part C				Total Marks
Q. No.	✓	Marks	Q. NO.	✓	a	b	
					Marks	Marks	
1	✓	2	11		✓	8.2	10
2	✓	2	12		✓	10	10
3		-	13		-	-	-
4	✓	2	14	✓	6		6
5	✓	2	15	✓	12		12
6		-	16				
7	✓	2	Grand Total				38
8		-	52.				 V. Mythili Name and Signature of the Examiner with date
9	✓	2					
10	✓	2					
Total		14	Grand Total				

To be filled by the examiner							
Course Outcomes	1	2	3	4	5	6	Total
Marks allotted	20	20	20	20	20		100
Marks Obtained	14	12	2	8	16		52
IQAC Audit - Remarks							
Marks Verified						 I. JEENA RAJATHI Name and Signature of the IQAC member	

Dr. M. VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL

SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

Dr. M. VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL

SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).



SASURIE
College of Engineering
Vijayamangalam, Tiruppur.

DEPARTMENT OF SCIENCE & HUMANITIES

Assignment Question Paper


Assignment - 01			Date of Issue:	02.09.2019	Marks	10
Course code	CY8151	Course Title	Engineering chemistry			
Year	I	Semester/Section	I / A & B	Date of Submission:	09.09.2019	


Q.No	Questions	CO
1	Estimation of hardness by EDTA Method	CO1
2	Differences between Zeolite and Demineralisation process	CO1

V. Mythili
V. Mythili
Name and Signature of the Faculty Incharge

Mo

J. Jee Raj
HoD/S&H

 **Dr.M.VIJAYAKUMAR** ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

 **Dr.M.VIJAYAKUMAR** ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

DEPARTMENT OF SCIENCE & HUMANITIES

Assignment Answer Sheet

Name of the Student : M. Praveen Kumar

AU Register Number: 732419105005

Assignment - 01			Date of Issue:	02.09.2019	Marks	10
Course code	CYS151	Course Title	Engineering Chemistry			
Year	1	Semester/Section	I / A & B	Date of Submission:	09.09.2019	

Q.No	Questions	CO
1	Estimation of hardness by EDTA Method	CO1
2	Differences between Zeolite and Demineralisation process	CO1

Mark Allocation

Rubrics	Marks Allocated	Marks obtained
Content Quality	6	5
Presentation Quality	2	2
Timely submission	2	2
Total marks	10	9

V. Mythili
21/9/19
V. Mythili
Name and Signature of the Faculty Incharge

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).

J. Jeevan
HoD/S&H

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).