

An Internship Report on

LAB TECHNICIAN

(Title of the Semester Internship Program)

Submitted in accordance with the requirement for the degree of
Under the Faculty Guide ship of

M. Shanti Hem

(Name of the Faculty Guide)

Department of

English chemistry

(Name of the College)

Submitted by

Govt. degree college, Narasannapeta.

(Name of the Student) T. Vykunta Rao

Reg. No 222200 40 52009

Department of

English chemistry

(Name of the College)

Govt. Degree college, Narasannapeta.

SHORT- TERM INTERNSHIP

Name of the Student: T. vykunta Rao

Name of the College: Govt. Degree college, Narasannapeta.

Registration Number: 2222004052009

Period of internship: 2 Monthy From: 01-05-24 To: 30-07-24

Name & Address of the Intern Organization: CMS LABORATORIES INDIA PRIVATE LIMITED, # 47-10-50, 3rd Floor, Above Union Bank, 4th Lane, Dwaraka Nagar, Visakhapatnam -530 016.

Andhra University

2023-2024

Student's Declaration

I, T. vykunta Rao a student of BSC. MPC
Program, Reg. No. 2222004052009 of the Department of English chemistry
College do hereby declare that I have completed the MPC (Group)
Mandatory Internship from 01-05-24 to 30-06-24 in
CMS LABORATORIES INDIA PRIVATE LIMITED under the Faculty
Guideship of M. Shanti Hem (Name of the Faculty
Guide), Department of English, (Name of the College)
Gout. degree college, Narasannapeta.

T. vykunta Rao

(Signature and Date)

Official Certification

This is to certify that T. vykunta Rao
(Name of the student) 2222004052009 Reg. No. has completed
his/her Internship in CMS LABORATORIES INDIA PRIVATE
LIMITED on lab technician (title of the internship) under my
supervision as a part of partial fulfillment of the Requirement for the
Degree of BSC. MPC (Group), Govt. Degree college,
(Name of the College). Narasannapeta

This is accepted for evaluation.

(Signatory with Date and Seal)

Endorsements

Faculty Guide r.p. Shanthi-Hame

Head of the Department


PRINCIPAL
GOVT DEGREE COLLEGE
NARASANNAPETA-532 421
Srikakulam Dist.

Certificate from Intern Organization

This is to certify that

T. vykunta Rao

(Name of the Student) 222200405009 (Reg. No), Govt degree college

Narasannapeta (Name of the College) underwent internship
in CMS LABORATORIES INDIA PRIVATE LIMITED from 01-05-24 to
30-06-24

The overall performance of the intern during his/her internship is found
to be Satisfactory (Satisfactory/Not Satisfactory).



Authorized Signatory with Date and Seal

CMS LABORATORIES INDIA PVT. LTD.
Plot No- 121-C Floor No:3, Mohan Mansion,
Dwarakanagar, Visakhapatnam (Urban),
Visakhapatnam- 530016, Andhra Pradesh
CIN :U78300AP2024PTC113667

Acknowledgements

It gives me an immense pleasure and pride to express my sincere gratitude and respect for my teacher, internship supervisor and guide M. Shanthi Haran, for his expert and inspiring guidance and support throughout my internship.

Also, I am very grateful to the Head of the Department of P. Saravidya, and the other faculty members of the Chemistry Department for being a source of support during this project period.

I would like to extend my gratitude to my Principal Sir Dr. P. Latha for providing me all the necessary facilities that were required for successful completion of this internship.

I also thank **CMS LABORATORIES INDIA PRIVATE LIMITED** Visakhapatnam, for providing internship opportunity.

My special thanks to the **Managing Director, G. Jagadeeswara Rao**, for his constant support, encouragement and timely advice.

I'm deeply grateful to my internship trainers, for their invaluable guidance and support. From the moment I started, they took time to get me know the importance of various skills and understand my goals for the internship. Their constructive feedback helped me to improve my skills in which I have interest and approach my tasks with great enthusiasm.

CONTENTS

S.No	NAME OF THE CONTENT	Page No
1.	WHAT IS INTERNSHIP?	1
2.	CHAPTER – 1 : EXECUTIVE SUMMARY <ul style="list-style-type: none"> • Learning objectives • Learning outcomes • Description of intern organization • Description of the course 	2-4
3.	CHAPTER – 2 : OVERVIEW OF THE ORGANIZATION <ul style="list-style-type: none"> • Introduction of the organization • Policy of the organization • Organogram of CMS 	5-7
4.	CHAPTER – 3 : DESCRIPTION OF THE ACTIVITIES <p>Weekly report-1 Activity log for the first week</p> <p>Weekly report-2 Activity log for the second week</p> <p>Weekly report-3 Activity log for the third week</p> <p>Weekly report-4 Activity log for the fourth week</p> <p>Weekly report-5 Activity log for the fifth week</p> <p>Weekly report-6 Activity log for the sixth week</p> <p>Weekly report-7 Activity log for the sixth week</p> <p>Weekly report-8 Activity log for the sixth week</p>	8-40
5.	Evaluation	41-45

WHAT IS INTERNSHIP?

Internship is an integral platform for anyone to gain experience in the actual work place. Thus, Internship is a good opportunity for students to learn, to gain experience and also to make preparations. Men learn through experience and real life is full of different kinds of experiences. We will encounter many difficulties and obstacles and with experiences we are expected to be able to encourage and complete the process. Experience in my eyes is a very valuable thing in life because we need to be brave in taking risks.

It is also not something that we simply create, but we need to undergo through it. By doing my internship in an actual work environment, it helps me to know and discover myself from different angles. It also helps me to control and develop my attitude towards dealing with different kinds of people and situations. I have decided to take the internship course to grab the golden opportunity to apply theoretical knowledge that I have in a real working environment. Through college, I learned about theories but doing an internship, I learned a practical approach on dealing with the real world. Even though it was not that much, it still has profound results in some aspects of my life. In some ways, through internship, I also have learned that I am still lacking as an individual and employee. Internship helps me to identify my weaknesses and also my strengths. "Experience without theory is blind, but theory without experience is mere intellectual play". The other reason why I choose to take the internship as preparation for more challenging work environment and situation. Our life in college is incomparable with real working experience. A working life is very challenging as it requires great effort, commitment and abilities; those are something that I need to be prepared and trained to. Apart from that, I really want to gain professional experience and skills by taking the internship course. At the same time, I also want to improve my communication skills and ability to interact with people. I realize that by being part of society, I will need to meet different people around the office and I will have to communicate with them to settle their needs. Undergoing internship also helps to make me learn on how to work in a systematic organization. It helps me to learn how to be independent in accomplishing my tasks.

CHAPTER – 1

(EXECUTIVE SUMMARY)

1.1 LEARNING OBJECTIVES:

- To aim to provide an understanding of drug production particularly prescription production in small scale, with special focus on liquid and semi-solid systems.
- the course provides drug administration routes, physicochemical aspects of drug formulation and dosage, as well as consideration regarding their preparation including stability assessment.
- To promote an introduction methods, technology and quality systems that are used in production of pharmaceutical forms with requirements for sterility.
- the main focus is the formulation and production of oral, solid and other conventional dosage forms of administration and the science behind them.

2. OUTCOMES ACHIEVED

- Idea and basic issues in the pharmaceutical industry.
- R & D and pharmaceutical development in the pharmaceutical industry.
- learned drug preparation technologies and processes.
- new technologies in the pharmaceutical industry.
- Role of biological products and pharmaceutical biotechnology in the industry.
- About quality management and quality control issues in licensing drug marketing, pharmacovigilance activities.
- About solid, liquid, semisolid, gaseous pharmaceutical production technologies.

1.3 INTERN ORGANIZATION:

CMS LABORATORIES INDIA PRIVATE LIMITED is a partnership company established in 2017 which is accredited and affiliated by SSC under non PMKVY with a motto of pharmaceutical skill development with placement linked training programs. After providing training on various courses comes under Pharmaceuticals are Chemist Production (pharma, cosmetics and biologics)-V2- API/Bulk drug, Production Machine Operator Active Pharmaceutical Ingredient (API)/Bulk drug V3-non sterile manufacturing, Lab technician- research and quality control-V2 Wet lab, Assistant manufacturing and packaging (pharma, biologics and medical devices)_V3. Courses offered as part of IT & ITeS are BPO(voice/non voice), Customer Care Executive(CCE), Tech Support Engineering. Courses offered for Engineering background are Robotics, Embedded systems, AutoCAD, Cloud Technologies. Skill training CMS will validate and furnish certificate from Life Science Sector Skill Development Council (LSSSDC). More than 2780 trainers are working in various pharmaceutical companies across PAN India. To present skilled man power to pharmaceutical industry along with certification as manufacturing assistants.

1.4 DESCRIPTION OF COURSE:

A quality control chemist (QC chemist) is a specific type of laboratory chemist, whose primary duties are to measure and products according to industry specific standard procedures jobs are typically in the pharmaceutical or manufacturing field.

Quality control in the pharmaceutical industry aims to verify and test in medicine at various stages of production to ensure every product is of the highest quality. Quality control also involves identifying product of the defects and fixing these problems with corrective techniques and measures.

Production chemists work for manufacturing companies and are involved in developing products obtained through chemical reactions, such as cosmetics, production chemists strategize on effective methods to maximize the products quality and efficiency, following safety regulations and legislation procedures.

They also run quality checks on the components to verify their safety and minimize their environmental effect.

A production chemist must have excellent organizational and critical thinking skills as well as having extensive knowledge of the scientific industry.

INTRODUCTION OF THE ORGANIZATION:

About CMS LABORATORIES INDIA PRIVATE LIMITED Empowering Youth for a Brighter Future.

At CMS LABORATORIES INDIA PRIVATE LIMITED, we're on a mission to transform lives through skill development. Our vision is to create robust and high-quality institutions that cater to the diverse needs of individuals, helping them reach their goals and aspirations. We believe in providing unwavering support, with a focus on quality assurance, information systems, and comprehensive training programs aimed at empowering unemployed youth to secure a better life.

Our Approach:

Bridging the Gap between Academics & Industries:

We're committed to closing the gap between Academics & Industries by developing the skills of unemployed youth and connecting them with opportunities in the private sector.

Our Strengths:

Empowering Potential and Unleashing strengths, crafting success. CMS Skill Center fosters determination and resilience in young minds. We turn interests into stepping stones on the path to triumph. Your journey to success starts here.

Certification for Excellence:

Founded in 2017, CMS is a partnership company dedicated to Pharmaceutical Skill Development with Placement-Linked Training Programs. We offer a range of certified courses including Manufacturing Assistant, Production Chemist, Production Machine Operator, Lab Technician, Industrial Electrician and Solar PV Installer.

Industry-Aligned Training:

After completing our skill training programs, CMS provides certification recognized by the Life Science Sector Skill Development Council (LSSSDC), ensuring that our graduates are industry-ready.

Impactful Results:

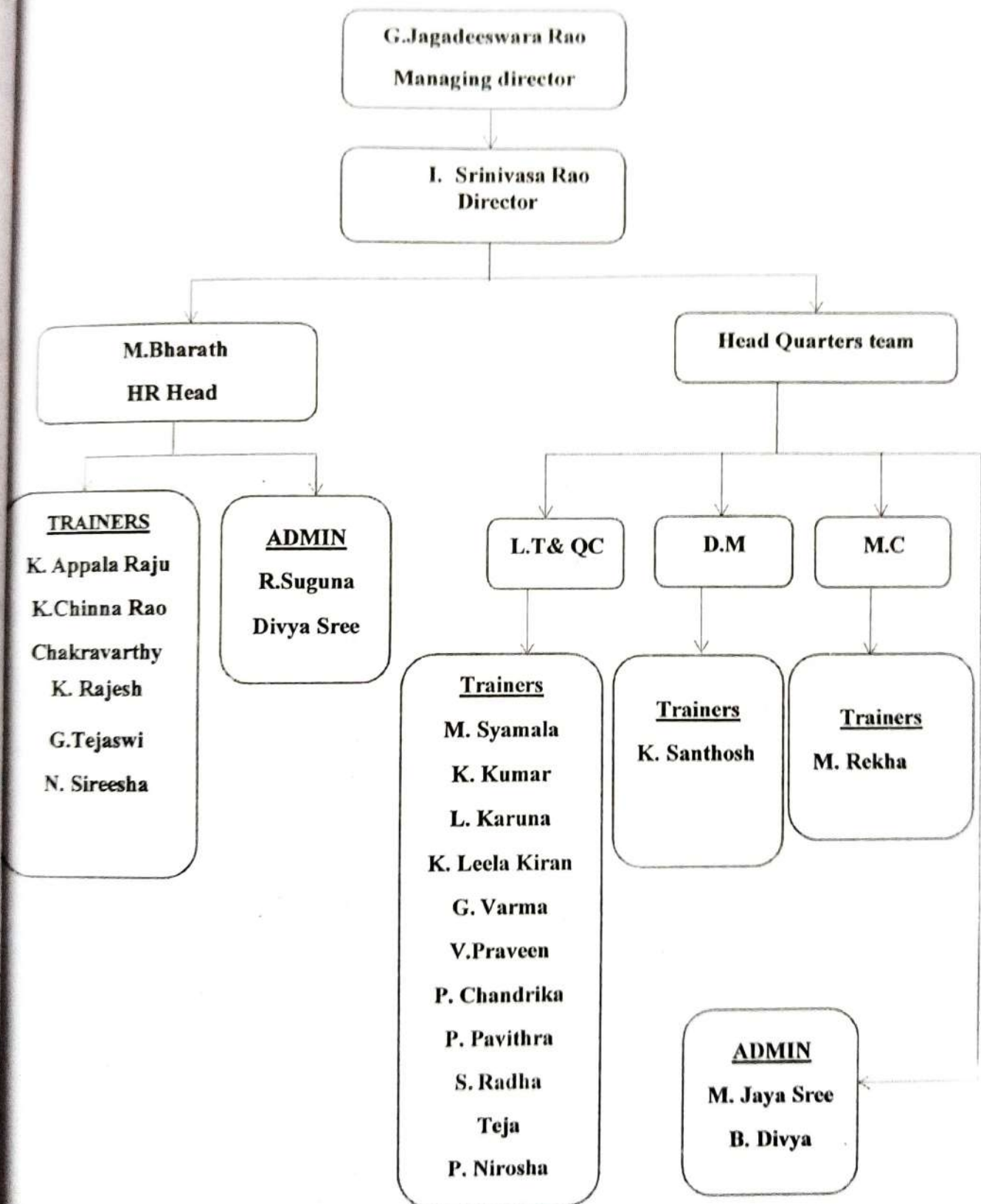
With over 5289 trainees now gainfully employed in various Pharmaceutical Companies across India, we take pride in our track record of making a significant difference in the lives of our graduates.

Corporate Social Responsibility (CSR) Commitment:

As part of our Corporate Social Responsibility (CSR) initiative in collaboration with SDI Visakhapatnam (a group of Public Sector Oil Companies), we are dedicated to enhancing the employability and prospects of youth across the nation.

Join us on our journey to empower the youth, build a skilled workforce, and create a brighter future. At CMS Skill Center, we believe that every individual deserves a chance to shine, and we're here to make it happen.

ORGANOGRAM OF CMS:



WEEKLY REPORT-1

OBJECTIVE OF THE ACTIVITY:

Learned about pharmaceutical industry sector
few guidelines about different and also regulatory
agencies pharmacopoeia.

DETAILED REPORT:

1. Industry : A detail over view about different sector in industry and their type.
2. life science sector : Awareness of pharmaceutical and life science with combination of medicine, health and food.
3. Regulatory Agencies : Given detail knowledge from various country agencies about their research centre, plant, laboratory etc. with supply of medicinal plants.
4. pharmaceutical industry : Include with organization and biotechnology and contract research sector.
5. Indian pharmaceutical industry : over view in detail with genetic drugs, vaccines and also for different use and other country food and drug administration with their percentage.
6. pharmacopoeia : It consists of preparation of medicals and it is different from each and other countries and it was issued under the government.

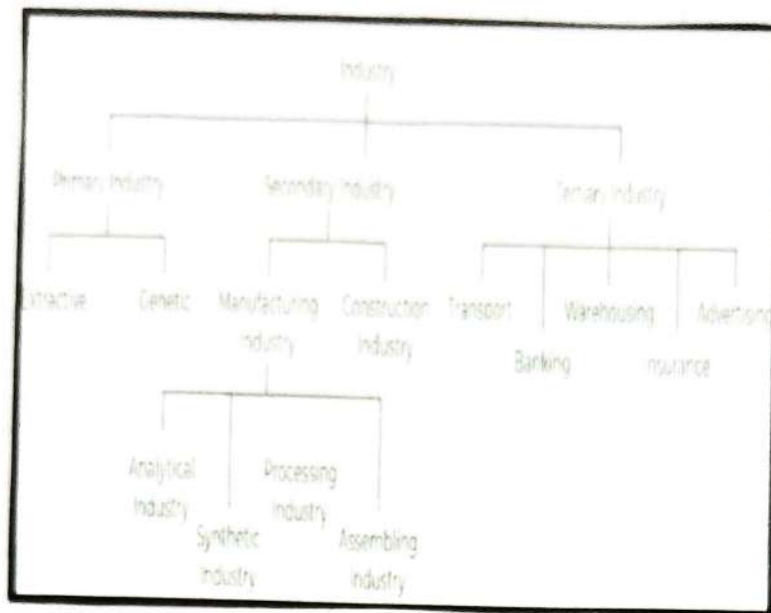
Introduction

Industry: it is defined as an economic activity concerned with the processing of raw materials and manufacture of goods in factories. It is also the aggregate of manufacturing or technically productive enterprises in a particular field often named after its principal product. The term industrial revolution coined by Arnold Toynbee.



The goods sold by industry can be either used by other companies for further production or can be used by the end consumer for final consumption. The goods produced in the former case are known as producer goods. For example, machinery, tools etc. However, the goods produced in the latter case are known as consumer goods. For example, bread, milk, butter, cloth, groceries, medicines etc. An organization can also produce materials that can be used by other companies to further process and convert them into finished goods.

These goods are known as intermediate goods. For example, rubber, copper, plastic etc. Industry can be further classified into three parts: primary, secondary and tertiary industry.



pharmaceutical industry :

the pharmaceutical sub sector includes all the companies involved in the any of following : manufacturing and or sale of drugs formulations for india or well as for exports active pharmaceutical ingredient (API) manufacturing contract , manufacturing of drug formulations / nutraceutical products and sale.

there are various types of pharmaceutical industries.

Research and development (R&D) firms.

- pharmaceutical manufacturer
- biotechnology firms.
- genetic drug manufacturers
- contract research organizations (CRO's)
- contract development & manufacturing organizations (CDMO's)
- pharmaceutical distributors.
- speciality pharmaceuticals.

Biotechnology sub sector :

The biotechnology sub sector includes all companies involved in manufacturing and sale of biotech driven products like vaccines, serum, bio fertilizers etc.

Regulatory agencies :

To ensure the every product which comes out of manufacturing unit is of high quality and is safe for consumption in every country the government regulates every stage of business operation starting from the research center, plants and laboratories and every warehouse and shops used to store and sale these products only a valid license holder company can manufacture or supply the medicinal products.

Country	Regulatory Agency
United States of America	FDA (Food and drug administration)
European Union	European Medicines Agency
Canada	Health Canada
	Health Products and Food Branch (HPFB)
	Therapeutic Products Directorate (TPD)
Australia	Therapeutics Goods Administration (TGA)
India	Central Drugs Standard Control Organization
Globally	World Health Organization (WHO)

Indian pharmaceutical industry :

- India is the largest provider of generic drugs globally and is known for its affordable vaccines and generic medications.
- Generic drugs over the counter medications, bulk drugs, vaccines, contract research & manufacturing, bio, similar and biologics are some of the major segments of the Indian pharma industry.

Description about API : In the pharmaceutical industry and API or active pharmaceutical ingredients refer to the biologically active component of a drug that produces its desired therapeutic effect. APIs are crucial in the formulation and production of pharmaceutical products.

* Description about manufacturing & formulation :

combination with excipients in the formulation of a drug the API is combined with other inactive substances known as excipients these excipients can include binders, fillers, lubricants and coatings among others to create a stable and administrable dosage form.

* warehouse (WH) : In the pharmaceutical industry a warehouse plays a crucial role in the storage, distribution and management of pharmaceutical products including drugs, vaccines, medical devices and related materials storage warehouses are used to store pharmaceutical products in a controlled environment.



* Quality Control (QC) :

quality control is a critical aspects of a pharmaceutical production vigorous testing and are quality check are performed and various stages of production and sure that final product given the required quality standard.

this includes testing the raw materials and manufacturing factor test on finished.

to verify their protection purity and check



UV spectroscopy

UV spectroscopy or ultra violet visible spectroscopy is an analytical technique commonly used to determine the absorbance of UV and visible light by chemical substances. This method provides essential data on the molecular structure and concentration of compounds in a sample. Key components:

1. light source
2. monochromatic
3. sample holder
4. detector



Types of UV spectroscopy :

UV visible spectroscopy : measures absorption in both the ultra violet and visible spectrum. UV spectroscopy : used for wavelengths below 200 nm, requiring specialized equipment as these wavelengths are absorbed by air.

Dissolution

dissolution in the pharmaceutical context refers to the process by which a solid substance dissolves in a liquid medium to form a solution. This is a critical quality attribute for oral dosage forms such as tablets and capsules because it affects the drug's bioavailability i.e. the rate and extent to which the active pharmaceutical ingredient (API) is absorbed from the drug product and becomes available at the site of.



Key aspects of dissolution testing :

1. purpose
2. methodology
3. parameters
4. regulatory importance
5. Applications.

sonicator

A sonicator or ultrasonic homogenizer is a homogenizer is a laboratory device that uses high frequency sound waves to agitate and disrupt particles in a sample, typically a liquid.

this process is known as sonication.



ultrasonic probe: this is the part of the sonicator that ultrasonic waves it's typically immersed directly into the sample.

Frequency Range: Most sonicators operate at frequencies between 20 KHz and 40 KHz which are above the audible range of human hearing.

VORTEX SHAKER

A vortex shaker or the simply called a vortexer is a laboratory device that is used to mix all of your liquid quickly it consists of an electric motor with a vertically a liquid shaft attached to upper support piece mounted slightly off center as the motor runs the rubber piece oscillates rapidly in a circular

Student Self Evaluation of the Short-Term Internship

Student Name: T. Vylunta Rao

Registration No: 2222004059009

Term of Internship:

short term internship From: 01-05-24 To: 30-06-24

Date of Evaluation: 26-07-24

Please rate your performance in the following areas:

Rating Scale:

Letter grade of CGPA calculation to be provided

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the course	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	OVERALL PERFORMANCE	1	2	3	4	5

Date:

T. Vylunta Rao

Signature of the Student

Evaluation by the Supervisor of the Intern Organization

Student Name: T. Vylkunta Rao Registration No. 2222004052009
Term of Internship: short term internship From: 01-05-24 To: 30-06-24
Date of Evaluation: 26-07-24

Organization Name & Address: CMS LABORATORIES INDIA PRIVATE LIMITED
47-10-50, 3rd floor, above Union Bank, 4th Lane, Dwaraka Nagar,
Visakhapatnam, 530016
Name & Address of the Supervisor with Mobile Number:

Please rate the student's performance in the following areas:

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	④	5
2	Written communication	1	2	3	④	5
3	Proactiveness	1	2	③	4	5
4	Interaction ability	1	2	③	4	5
5	Positive Attitude	1	②	3	4	5
6	Self-confidence	1	2	3	④	5
7	Ability to learn	1	2	3	4	⑤
8	Work Plan and organization	1	2	3	4	⑤
9	Professionalism	1	2	3	④	5
10	Creativity	1	2	3	④	5
11	Quality of work done	1	2	3	4	⑤
12	Time Management	1	2	3	④	5
13	Understanding the course	1	2	③	4	5
14	Achievement of Desired Outcomes	1	2	3	④	5
15	Regularity	1	2	3	④	5
16	OVERALL PERFORMANCE	1	2	3	④	5

Date: 26/7/2024

L. P. Dinasho
Signature of the Supervisor

INTERNAL ASSESSMENT STATEMENT

Name of the Student: T. vykunta Rao

Program of Study: MPC

Year of Study: 2023-24

Group: IInd BSC. MPC

Register No/H.T. No: 2222004052009

Name of the College: Govt. Degree college, Narasannapeta.

University: Dr. B.R Ambedkar university.

Sl.No	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	Activity Log	10	10
2.	Internship Evaluation	30	30
3.	Oral Presentation	10	05
	GRAND TOTAL	50	45

Date:

P. Praveen Kumar
Signature of the Faculty Guide

EXTERNAL ASSESSMENT STATEMENT

Name of the Student: T. vykunta Rao

Program of Study: MPC

Year of Study: 2023-24

Group: 2nd BSC.MPC

Register No/H.T. No: 2222004052009

Name of the College: Govt. Degree college, Narasannapeta.

University: Dr. B.R Ambedkar university.

Sl. No	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	Internship Evaluation	80	70
2.	For the grading giving by the Supervisor of the Intern Organization	20	20
3.	Viva-Voce	50	45
	TOTAL	150	135
GRAND TOTAL (EXT. 50 M + INT. 100M)		200	45+135=180


Signature of the Faculty Guide


Signature of the Internal Expert

M. Nirosha.
L. Krishnakumar
Signature of the External Expert


Signature of the Principal with Seal

PRINCIPAL
GOVT. DEGREE COLLEGE
NARASANNAPETA-532 421
Srikakulam Dist.