



Dr. V. S. Krishna Government Degree College(A)
Visakhapatnam
Reaccredited by NAAC with "A" grade (3rd cycle)



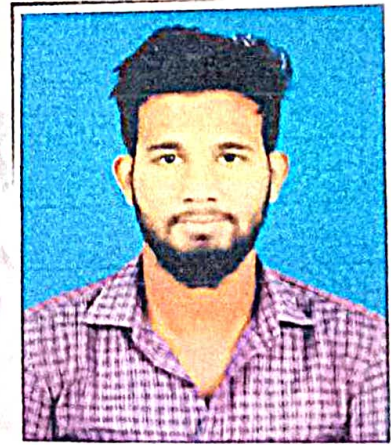
SEMESTER INTERNSHIP
(On-Site / Virtual)

**PROGRAM BOOK FOR
SEMESTER INTERNSHIP**



Name of the Student: BALAGA CHANDRA SEKAHR

Name of the College: Dr. V. S. Krishna Government
Degree & PG College (A),
Visakhapatnam.



Registration Number: E20207002

Period of Internship: 3 Months From: 01.03.2023 To: 31.05.2023

Name & Address of the Intern Organization:

**Aurobindo Pharma Limited, Unit -15, Lankilapalem,
Visakhapatnam , Andhra Pradesh.**

Dr. V. S. Krishna Government Degree & PG College (A), Visakhapatnam.

Andhra University

YEAR 2022-2023

An Internship Report on

QUALITY CONTROL

Aurobindo Pharma Limited – Unit 15

Submitted in accordance with the requirement for the degree of

B. SC (MATHS, CHEMISTRY, INDUSTRIAL CHEMISTRY)

Under the Faculty Guideship of

Sri. Dr.P.APPA RAO

Department of Chemistry

Dr. V. S. Krishna Government Degree & PG College (A),

Visakhapatnam

Submitted by:

BALAGA CHANDRA SEKAHR

Reg. No: E20207002

Department of Chemistry

Dr. V. S. Krishna Government Degree & PG College (A),

Visakhapatnam.

Student's Declaration

I, **BALAGA CHANDRA SEKAHR** a student of **B.Sc (MATHS, CHEMISTRY, INDUSTRIAL CHEMISTRY)** Program, Reg. No. **E20207002** of the Department of Chemistry, Dr. V. S. Krishna Government Degree & PG College (A), do hereby declare that I have completed the mandatory internship from 01.03.2023 to 31.05.2023 in **Aurobindo Pharma Limited**, Visakhapatnam, under the Faculty Guideship of **SRI Dr.P.APPA RAO** Department of **Chemistry**, Dr. V. S. Krishna Government Degree & PG College (A), Visakhapatnam.

B.Chandra.
(Signature and Date)

Official Certification

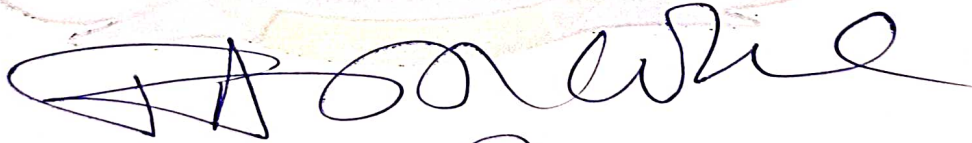
This is to certify that **BALAGA CHANDRA SEKAHR** Reg. No. **E20207002** has completed his/her Internship in **Aurobindo Pharma Limited** Unit -15, **Visakhapatnam** on **QUALITY CONTROL (Moisture Checking)** under my supervision as a part of partial fulfilment of the requirement for the Degree of **B.Sc (MATHS, CHEMISTRY, INDUSTRIAL CHEMISTRY)** in the Department of **Chemistry, Dr. V. S. Krishna Government Degree & PG College (A), Visakhapatnam.**

This is accepted for evaluation.


(Signatory with Date and Seal)

Endorsements

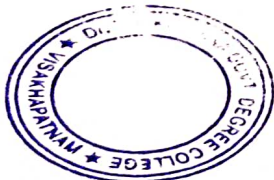
Faculty Guide



Head of the Department



Principal



Certificate from Intern Organization

This is to certify that **BALAGA CHANDRA SEKAHR** Reg. No. **E20207002** of **Dr. V. S. Krishna Government Degree & PG College (A), Visakhapatnam.** underwent internship in **Aurobindo Pharma Limited Unit -15, Visakhapatnam** from 01.03.2023 to 31.05.2023.

The overall performance of the intern during his/her internship is found to be Satisfactory.


Srij 31/5/2023
AUROBINDO

Authorized Signatory with Date and Seal

Acknowledgements

It gives me an immense pleasure and pride to express my sincere gratitude and respect for my teacher and guide *Sri. Dr.P.APPA RAO, Lecturer in Chemistry, Dr. V. S. Krishna Government Degree & PG College (A) Visakhapatnam* for his expert and inspiring guidance.

Also, I am very grateful to the head of the Department of *Chemistry*, 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.I Vijaya Babu* for providing me all the necessary facilities that were required for successful completion of this internship.

I also thank *Aurobindo Pharma Limited Unit -15, Visakhapatnam* for providing internship opportunity.

My special thanks to the internship trainer *Sri. E. Nageswara Rao* for their constant support, encouragement and timely advice.

B. Chandu.
Signature of the student

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INTRODUCTION

Internship is an integral part for anyone to gain experience in the actual work place. Thus, Internship is a great opportunity for students to have its own experience and also to make preparations. What learn through experience and real life is full of different kinds of experiences. We will encounter many difficulties and challenges and will experience not just expected to be able to overcome and complete the process. Experience in my eyes is a very valuable thing in life because we need to be brave in all my tasks. 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 in 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 is as preparation for a 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 dedication; 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. Besides, all knowledge that I have learnt through my classroom learning in the classroom can be implemented through an internship. Not only that, by doing an internship, I am able to undergo challenges which are normal in a working life setting.

OVERVIEW OF THE ORGANIZATION

Suggested Contents

A. Introduction of the Organization

Company which provides technology solutions to over customers with convergence of media, the changing landscape of the industries is becoming extremely competitive. As companies rapidly strive to gain a competitive advantage, **Aurobindo Pharma Limited Unit -15** helps companies innovative and transforms its unique insights, differentiated services and flexible partnering models. This helped our customers reduce operating costs and generate new revenue streams. We provide high end business solutions for complex business utilizing current technologies with expert professions in software industries. Our project is based on the principles of highest quality, longest reliability, lowest cost and complete customersatisfaction.

At **Aurobindo Pharma Limited Unit -15** we provides and various **QUALITY CONTROL**, **Aurobindo Pharma Limited Unit -15** has integrates its products and services to create customized solutions to allow you to undertake technology-based business transformation that allows reorganization in line with today's dynamic digital business environment.

B. Vision, Mission and Values of the Organization

Aurobindo Pharma Limited Unit -15 is a service provider company committed to help business providing qualified resources, and professional services with the highest quality in different areas and we will leverage our strengths to execute complex global-scale projects to facilitate leading-edge products and services affordable to all consumers and business in India.

As **Aurobindo Pharma Limited Unit -15** has developed its quality initiative and casts its process with perfect customization as per the client needs while meeting the defined standards. So here we will offer unparalleled value to create customer delight and enhance business productivity.

So quality is our measurable factor for us. It is our responsibility towards our valued clients who are the very cause of our existence.

C. Policy of the Organization in relation to the intern role

In the competitive IT services industry, it's difficult to know what differentiates one company from the other, so to keep pace with today customer-driven business environment; companies must re think their business processes. As companies are facing increasing competitive pressure and are inhabitant by inefficient IT systems, it is clear that current enterprise applications are no longer meeting the business demands. So with **Aurobindo Pharma Limited Unit -15**, you can be certain that we put our

customer's interests first: we take a unique approach to fostering client, member (employee) and customer's satisfaction.

Aurobindo Pharma Limited Unit -15 delivers solutions that address this with flexible enterprise applications that can be delivered quickly and cost- effectively into complex environments. The **Aurobindo Pharma Limited Unit -15** team represents the architecture of our approach. It governs how we deliver services to clients, how we interact with members and how we respond to customers requirements. **Aurobindo Pharma Limited Unit -15** is committed to helping our clients with win and grows to

D: Organizational Structure

Aurobindo Pharma Limited Unit -15 is a globally focused services provider spread for serving customers, providing end-to-end services from IT development.

Our business encompasses a complete range of services that covering **IT development, HR-Consultancy** and various security systems etc. We endeavor to further extend our efforts beyond the traditional value chain by developing and deploying complete user friendly solutions for the entire spectrum of society.

Company area of business in IT side:

- ❖ Application development & maintenance
- ❖ Package implementation
- ❖ Web solutions
- ❖ Multimedia
- ❖ Content development
- ❖ Product design services
- ❖ Software development
- ❖ Web designing/ web publishing
- ❖ Graphics
- ❖ Data processing
- ❖ Hardware consultancy
- ❖ Wireless solutions
- ❖ Network solutions
- ❖ IT training
- ❖ Video conference
- ❖ Web hosting

The final part of your software company marketing plan is where you will show you will drive potential customers to your location(s). The following are optional methods you might consider:

- regularly press releases to industry-wide interest groups
- engage in social media mining and marketing
- write informative blogs; become a speaker in seminars
- maintain a strong presence at tech trade shows and conferences
- provide expert opinions on tech social media platforms
- improve the SEO (search engine optimization) on your website for targeted keywords

Future Plans of the Organization.

Projections for the future say that AI, machine learning, and data science will affect industries, and software code will automate most jobs worldwide. And all the software engineers around the world will need experts in software engineering to develop, maintain, and improve their working. This means that the software engineer demand in the future is going to rise, for more managerial roles like taking care of automated software,

customer demands for software are altering daily in the market, which has opened a new sphere of innovation for organizations. While the new technologies being used today require advanced skills and the assistance of skilled and experienced software engineers, the software engineers are working hard to learn new languages and stay updated with the trends.

Along with skills, software engineers will need to possess higher levels of ethics and integrity to work in data privacy and transparent AI applications. Software engineers' future prospects will increase as they adapt to the ever-changing digital world around them.

1. Cloud services

2. Artificial Intelligence

Promotions The final part of your software company marketing plan is where you will document how you will drive potential customers to your location(s). The following are some promotional methods you might consider:

- Quarterly press releases to industry-wide interest groups
- Engage in social media mining and marketing
- Offer informative blogs, become a speaker in seminars
- Create a strong presence at tech trade shows and conferences
- Give expert opinions on tech social media platforms
- Improve the SEO (search engine optimization) on your website for targeted keywords

F. Future Plans of the Organization.

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1. Cloud services

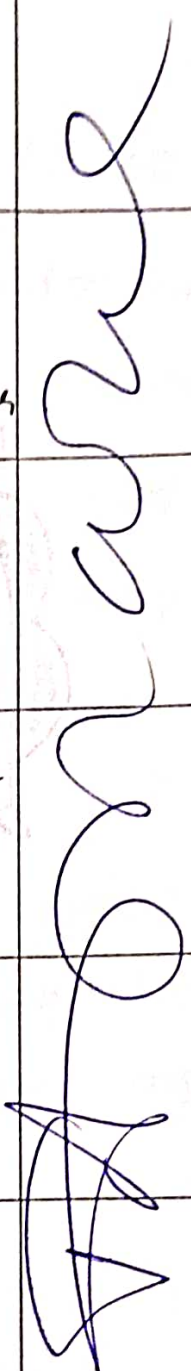
2. Artificial Intelligence

3. Low code development
4. Blockchain technology
5. Cybersecurity
6. Introduction of new programming languages
7. Advanced algorithms driving automation
8. The new reality with AR & VR



WEEKLY ACTIVITY LOG

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief Description of The Daily Activity	Learning Outcome	Person In-Charge Signature
Day -1	Activities for pharmaceutical industry	intermediate manufacturing	
Day -2	environmental health and safety	accounting codes organization workplace health	
Day -3	general safety notes	entry from of houses in storage prohibited.	
Day -4	personal protective	health iface shields safety glass earplugs	
Day -5	fire	fire is a chemical reaction other compounds	
Day -6	types of fire extinguishers.	<ul style="list-style-type: none"> * fire * foam * CO₂ * water 	

WEEKLY REPORT
WEEK - 1. (From Dt..... to Dt.....)

Objective of the Activity Done:




environmental health and safety (EHS)

Detailed Report:

* Environmental health and safety (EHS) is the department in a company, an organization focused on ensuring that the work undertaken by the company does not cause undue environmental damage and protect the workers' health and safety of high risk companies with applicable legislation and followed legal & processes.

* EHS aims to prevent and reduce accidents, incidents and health issues at work along with any environmental damage the could arise from work practice.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief Description of The Daily Activity	Learning Outcome	Person In-Charge Signature
Day -1	quality assurance (S.A)	In a choice of advance level of quality in product	
Day -2	Spelling & system	color relation the addition temperature	
Day -3	quality assurance consists of four steps	Plan do check act	
Day -4	quality assurance of model	store the process and come from over affected education	
Day -5	Product quality	Product for R&D customer needs	
Day -6	service quality	service more integrate intangible element	

WEEKLY REPORT
WEEK - 1. (FROM DI..... TO DI.....)

Objective of the Activity Done:

Environmental health and safety (EHS)

Detailed Report:

- * Environmental health and safety (EHS) is the department in a company or an organization focused with ensuring that the work undertaken by the company does not cause either environment damage, or the workers health and safety of high risk complies with applicable legislation and follows best practice.
- * EHS aims to prevent and reduce accidents, injuries and health issues at work along with any environmental damage that could arise from work practice.

WEEKLY ACTIVITY LOG
ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief Description of The Daily Activity	Learning Outcome	Person In-Charge Signature
Day - 1	Advantages for Pharmaceutical Industry	Intermediate manufacture	
Day - 2	Environmental Health and safety	a company with organization concerned health and safety	
Day - 3	General safety rules	entry from work that is strictly prohibited	
Day - 4	Personal protective	Helmet, face shields safety glasses earplugs	
Day - 5	Fire	fire is a chemical reaction that started of a three inputs	
Day - 6	Types of fire extinguishers	* DEP * Foam * CO ₂ * Water	

Objective of the Activity Done:

Environmental Health and safety (EHS)

Detailed Report:

- * Environmental health and safety (EHS) is the department in a company or an organization focused with ensuring that the work undertaken by the company does not cause undue environmental damage, a risk to workers health and safety or high risk complies with applicable legislation and follows best practice.
- * EHS are two prevent and reduce accidents emergencies and health issues at work along with any environmental damage we could derive from work practice.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief Description of The Daily Activity	Learning Outcome	Person In-Charge Signature
Day - 1	Quality Assurance (Q.A)	2nd degree of adequate level of quality in product.	
Day - 2	SPC (Statistical Process Control) system	control indication the operation temperature	
Day - 3	quality assurance consists of four steps	Plan, DO, check act.	
Day - 4	Quality assurance model are	Structure & role out come from ours effort Evaluation	
Day - 5	Product Quality	Products that fit customer needs and expectation	
Day - 6	service quality	services involve intangible elements of an environment	

WEEKLY REPORT
WEEK - 2. (FROM DI..... TO DI.....)

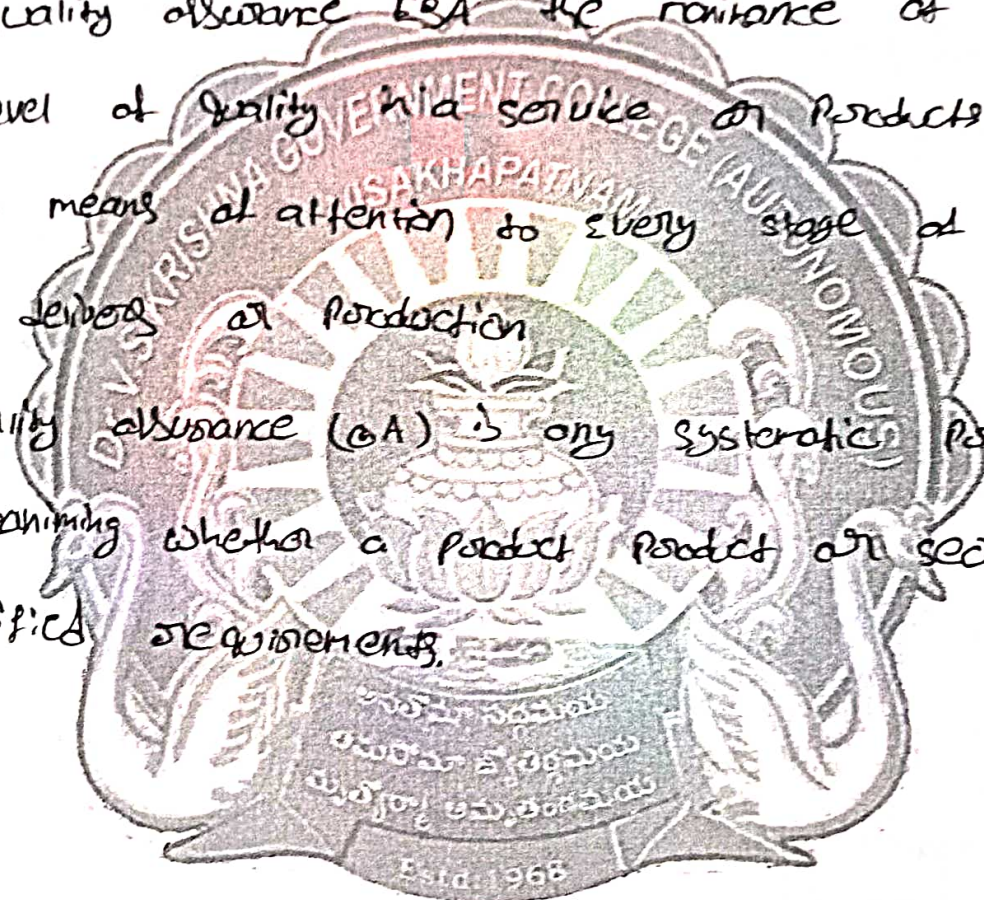
Objective of the Activity Done:

Quality assurance







Detailed Report:

=> Quality assurance is the maintenance of a desired level of quality in a service or product especially by means of attention to every stage of the process of delivery or production

=> Quality assurance (QA) is any systematic process of determining whether a product or service meets specified requirements.



ACTIVITY LOG FOR THE THIRD WEEK

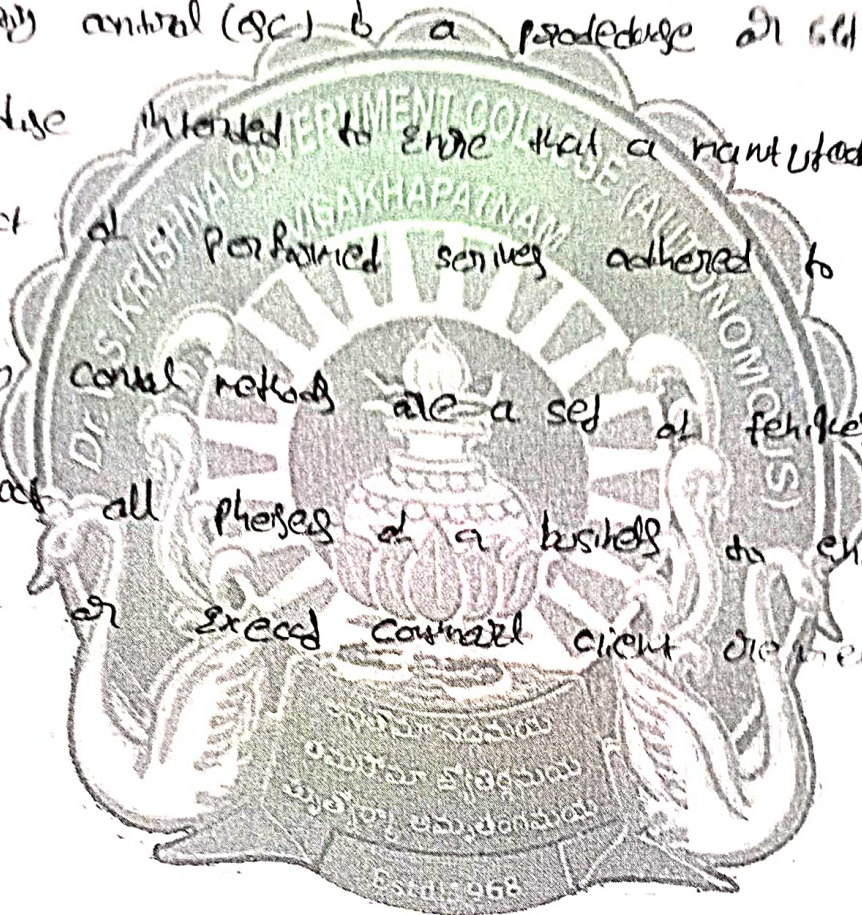
Day & Date	Brief Description of The Dally Activity	Learning Outcome	Person In-Charge Signature
Day -1	Quality control (QC)	data to have good instnre product	
Day -2	QC important	QC engoes protection of quality process	
Day -3	four types of QC	process control acceptance quality control	
Day -4	ISO	ISO as the that are used to quality	
Day -5	7 QC tools	scatter plots control charts satisfaction	
Day -6	7 QC tools used.	these are used for control separating of data.	

Objective of the Activity Done:


Quality Control.

Detailed Report.


- Quality control (QC) is a procedure or set of procedures intended to ensure that a manufactured product or performed services adhere to a desired level of quality.
- Quality control methods are a set of techniques used throughout all phases of a business to ensure products meet or exceed customer client demands.



ACTIVITY LOG FOR THE FOURTH WEEK

Day & Date	Brief Description of The Daily Activity	Learning Outcome	Person In-Charge Signature
Day - 1	Ware House (WH)	is a commercial space used in the supply chain stage now used	
Day - 2	types of Warehouses	cold ware house FPC co-peris is called warehouse	
Day - 3	Important of Ware house	Cold storage ware house is a perishable goods heat etc	
Day - 4	Cool warehouse	Cold storage ware house is a perishable goods heat etc	
Day - 5	Ware house management	encourages other principles and procedures stated in periodics	
Day - 6	Functions of Ware house	Storage material handling places and shipping	

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief Description of The Daily Activity	Learning Outcome	Person In-Charge Signature
Day - 1	Engineering and Power (EP)	oversee day development finally	
Day - 2	Advances Power Projects Engng	design develop here such as valves, bolts, nuts	
Day - 3	characteristics of power	single curve of Resistor has formation of strongly point	
Day - 4	opposite structures	to carry of power and * chronally processed.	
Day - 5	power management	controlling dire in testing and interpretation.	
Day - 6	power launch	Analysis of New formation	

WEEKLY REPORT
WEEK - 5. (From Dt..... to Dt.....)

Objective of the Activity Done:

Process and Pipework design

Detailed Report:

- ⇒ The process design begins read and directs theURS talk to the client and its development parties
- ⇒ Make sure the properties of all chemical process and utilities equipments including pipework. of specifications and flow rates are fully understood.
- ⇒ cleaning in place (CIP) velocity in process pipes should be at least 1.5 m/s to ensure turbulent flow with initial boundary layers of the used internal pipe wall.

THE EFFECTS OF PROJECTS

- a. Introduction.
- b. Project qualifications taken into account at the start of the project.
- c. Problems taken up.
- d. Analysis of the problem.
- e. Recommendations and conclusions.

System Administration

USER MANAGEMENT SYSTEM
COMPUTER ADMINISTRATION

USER MANAGEMENT SYSTEM

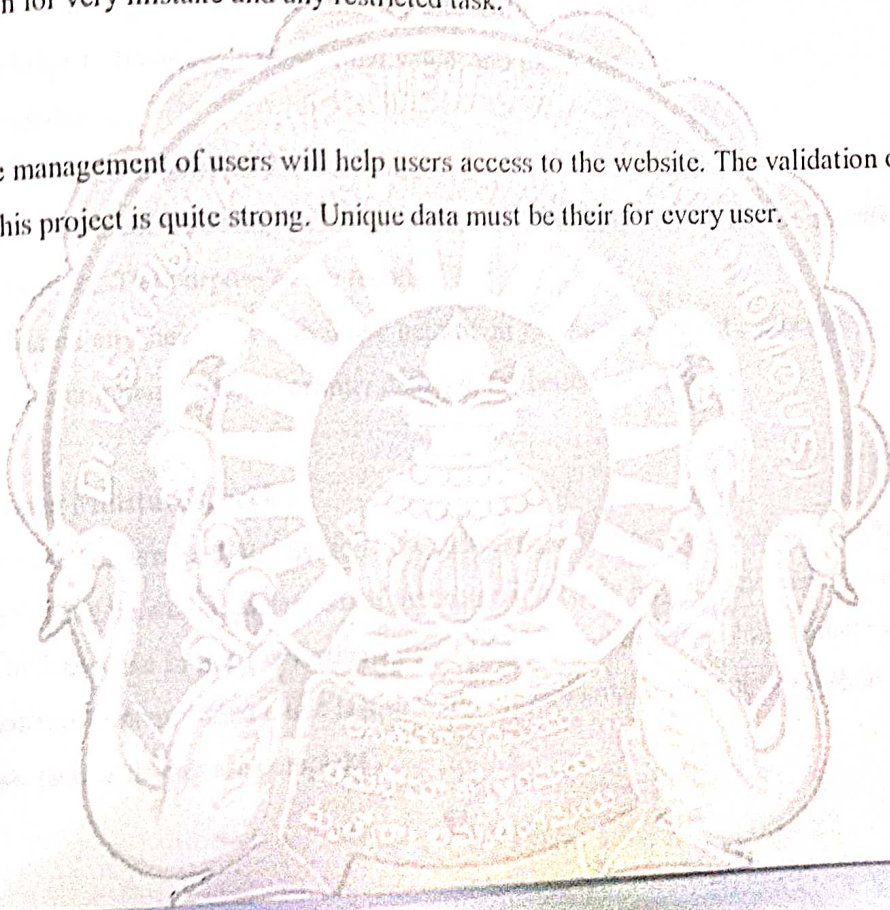
ABSTARCT

This project aims at creating a simple user management system that is required by every website where multiple users can login. This let new user registration, login & logout for every user.

Authentication is done every time a login attempt is made. The data of every user is stored in database, thus it make use of database fetch & store utility.

This project is a simple full stack project built with little bit of every tool. Python is used for programming, Django is used as a framework to support various application. The frontend work is basic & simple utilizing the tools. Adequate messages & popups are shown for very mistake and any restricted task.

Thus the management of users will help users access to the website. The validation of data in this project is quite strong. Unique data must be their for every user.



QUALITY CONTROL

quality control (qc) is a procedure or set of procedures intended to

ensure that a manufactured product or performed service adheres to a defined set of quality criteria or meets the requirement of the client or customer. (similar to, but not identical with, quality assurance (QA)).

This is all done to monitor significant variations in a product

The kinds of quality that the authors talk about are:

1. Acceptable quality: - It is the worst quality level that is tolerable for a product.
2. Appropriate quality: It's what they want and what they have conditioned themselves to accept.
3. Aspirational quality: This is where you deliver above and beyond the expectations of your project sponsor.

Benefits of quality

Quality establishes that higher

• revenues and productivity is achieved for the organisation.

Quality assist an organisation to diminish waste, costs, and risks.

* Quality helps to boost reputation brand value and meet the industry standards.

* Quality control is important for business.

Quality control involves testing units and determining if they are within the specifications for the final product. The purpose of the testing

is to determine any need, for corrective actions in the manufacturing process. Good quality control helps companies meet consumer demand, for better product.

Definition of Moisture Check :

Moisture meters are used to measure the percentage of water in a given substance. This information can be used to determine if the material is ready for use, unacceptably wet or dry, or otherwise in need of further inspection. Food and paper products are very sensitive to their moisture content. Moisture testing is also useful in other industries so when certain production processes such as drying are complete.

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1. ISO 9000:2005, Clause 3.2.10

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14. ^ Wheat, B.; Mills, C.; Carnell, M. (2001). Leaning into Six Sigma: The Path to integration of Lean Enterprise and Six Sigma. Publishing Partners. p. 100. ISBN 9780971249103.
15. ^ Phillips, Joseph (November 2008). "Quality Control in Project Management" L. The Project Management Hut. Retrieved 21 December 2012.
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MOISTURE METER

A moisture meter is an essential instrument used in many industries to detect moisture content in materials. Home and building inspectors rely on moisture meters to identify potential problems and damage to structures from moisture buildup. Woodworking industries, such as furniture makers, use wood moisture meters to insure a quality product. Flooring contractors use moisture meters to determine ideal conditions when installing a floor over a concrete slab or subfloor.

Indicator scales on moisture meters can vary in appearance, but all will indicate moisture content in percent (%MC). While some moisture meters offer an analog scale, others read %MC digitally. The accuracy of the %MC readings, as well as the appropriate substrate scales, vary per meter and can vary by brand and type.

Most moisture meters are calibrated to wood, which provides a relatively accurate reading in wood moisture content. Typically, this scale ranges in the 5 to 40% range. When testing the moisture content in non-wood materials, such as concrete, a relative scale of 0 to 100 is often used, where 0 is bone dry and 100 is saturated. This is a relative scale. Moisture meters include visual LED indicators related to the percent reading on the scale for dry, moderate and saturated or wet readings. Additionally, some meters also offer a third scale for readings of gypsum. These scale readings can range from 0.2 to 50% moisture content. When selecting a moisture meter for sheetrock, it is advised that a moisture meter that offers a scale reading for gypsum be used.

Color indicators on moisture meters are helpful in determining whether the material being tested is considered dry or if there is a potential problem with moisture. The green (dry), yellow (moderate) and red (high) indicators typically identify where on the scale of %MC the readings occur. This can clear up confusion where one interprets a %MC as dry versus one that is moderate and may require more thorough investigation to determine if a problem with moisture in the material exists, especially if a visible sign of moisture does not exist.

TYPES OF MOISTURE METERS

There are three common types of moisture meters used for the inspection of building and structure materials: pin-type, pinless and pin/pinless/all-in-one. All three types of moisture meters offer specialized purpose and are unique to the end user's application in determining %MC in materials.

Pin-Type Moisture Meter

Pin-type moisture meters have two pins on the instrument, which are used to penetrate into the test surface at a desired depth. The %MC is measured at the depth of the head of the contact pins. These meters use the principle of electrical resistance to measure the %MC by measuring the conductivity between the pins and typically read up to 5/16" deep. The tips of the pins are relatively sharp, uninsulated and penetrate into the surface for a sub-surface reading. This method is often viewed as an invasive process. With pin-type meters, you can also obtain a reading by touching the pins to the surface for testing.

Most pin-type moisture meters use a scale calibrated to wood, however this does not mean that the meters cannot be used to measure moisture in other substrates and materials. These types of moisture meters can also be used for concrete, drywall, ceiling tiles, painted surfaces and more. When using the wood scale on a pin-type moisture meter, the %MC reading can range from 5% to 40% in moisture content. Generally, the low end of this reading will fall into the 5 to 12% range, the moderate range will be 15 to 17%, and the high or saturated range will read above 17%. Scales for %MC ranges are provided in the instrument instructions and should be consulted for specific surface materials measuring ranges.

A pin-type moisture meter is the best way to identify the exact location of moisture buildup. When insulated contact pins are used, only the uncoated tips are exposed, providing an accurate reading of moisture content at various levels of penetration. Pin-type meters are the only instruments that allow the inspector to identify exact location of moisture at a given point. Using a pin-type meter is an effective way to determine the difference between shell and core moisture content.

Pinless Moisture Meter

Pinless or noninvasive moisture meters operate on the principle of electrical impedance.

This type of meter provides a nondestructive measurement of moisture in wood and other substrates, such as concrete and gypsum. A noninvasive moisture meter may also be called a nondestructive or a pinless moisture meter. Scales on these meters are similar to that of pin-type meters, where the wood scale reads %MC at 5 to 30%, but also reads %MC for nonwood materials (typically concrete) on a relative scale of 0 to 100. They can read up to a typical depth of $\frac{1}{2}$ inch or 1 inch into a subsurface. They are useful for detecting problem moisture buildup where visual indicators are not evident.

Pinless moisture meters are commonly used to determine moisture content on a relative scale of 0-100 in concrete subfloors and flooring prior to laying a wood floor or other decorative flooring surface. They are also used for identifying possible moisture buildup behind bathroom shower tiles, under vinyl flooring and other finished surfaces, as well as to determine if water-borne finishes are adequately dry prior to a second application.

Pin/Pinless/All-in-One Moisture Meter

A third and possibly more useful moisture meter would be a pin/pinless/all-in-one moisture meter. This type of moisture meter utilizes both methods for measuring %MC, and therefore one meter may be used to identify problem areas and then also used to pinpoint the exact location where moisture damage or buildup is occurring. Essentially, this type of meter would utilize the same scales of %MC for wood and nonwood substrates and allow the end user the versatility necessary for a full inspection in determining areas where moisture is an issue.

Ideally, due to its diversity, this type of meter could be utilized by flooring specialists, indoor air quality (IAQ) specialists, general contractors and home/building inspectors.

Accessories for Additional Monitoring Capability

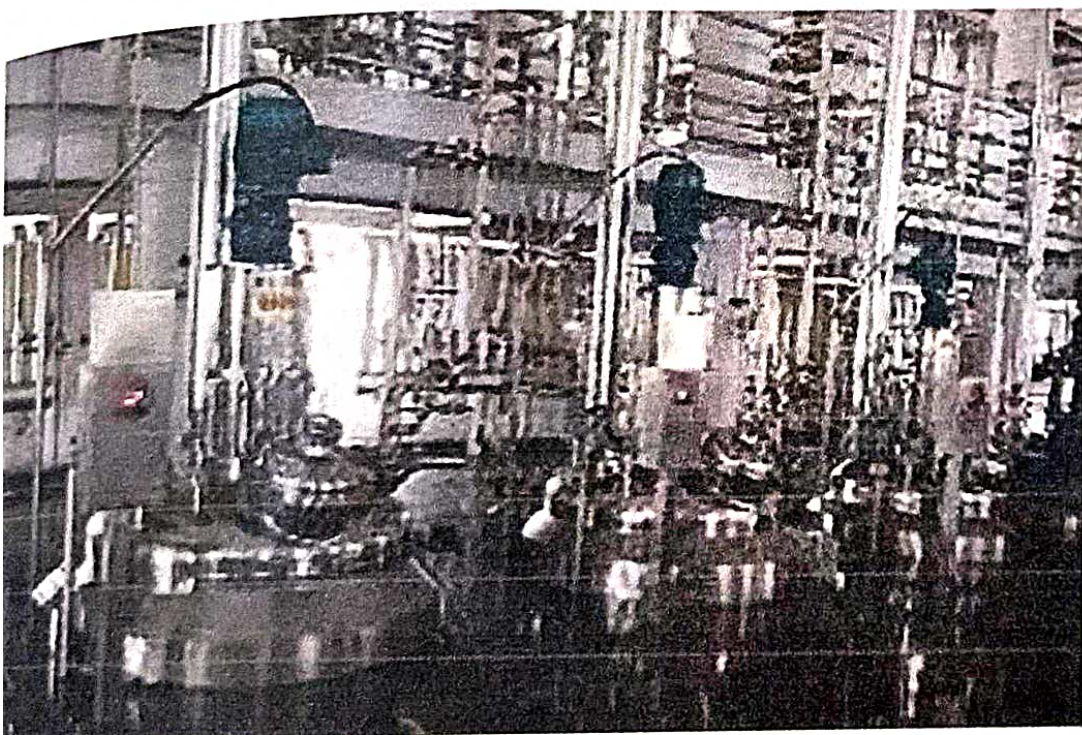
Generally, pin-type and pinless moisture meters provide moisture readings that are limited in depth. However, in some applications, readings of moisture deeper than $\frac{5}{16}$ " are necessary. If this is the case, many meters are equipped with a connection option to add accessory probes that can be inserted further into a substrate for more accurate core or depth detection. An example would be for Exterior Insulated Finish Systems (EIFS) testing. Moisture problems in EIFS are typically found within stucco surfaces and stem from poor sealant application around

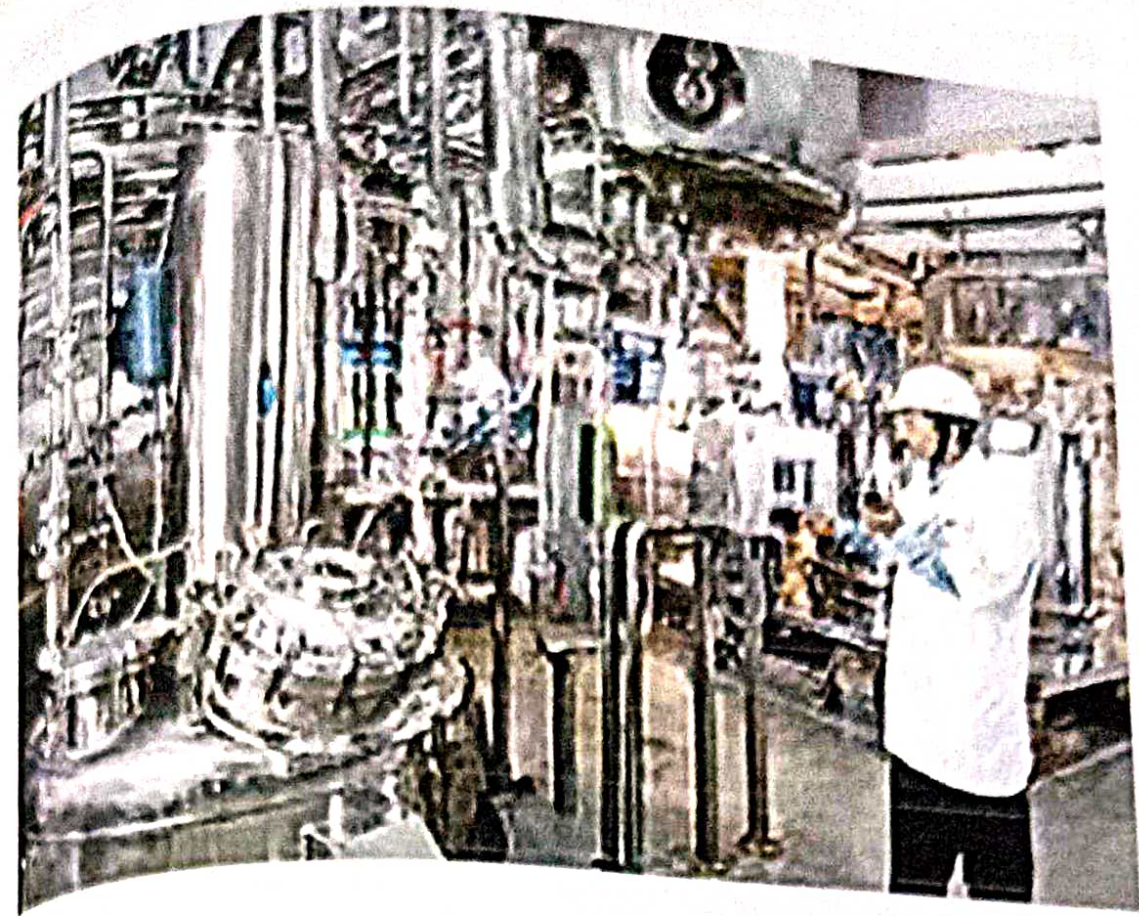
Window and door frames or are a result of faulty flashing installation. EIFS probes are used to measure %MC within these structures.

For deep penetration, long-insulated contact pins may be used to obtain a moisture content measurement taken at depth. Holes may need to be drilled into the surface for testing and then extra-deep pins are inserted into the pre-drilled holes and %MC measurements are taken at the tip of the pins where they are not insulated. Insulating all but the tips of these pins prevents false moisture content reading and provides a more accurate reading at the depth where the tips of the pins are exposed.

In order to obtain a depth without drilling holes into the surface, a hammer probe can be used to measure moisture content in wood at different levels of penetration by inserting a long pin into a wood surface for up to 1-1/2" depth readings. Hammer probes are ideal for shell and core to detect moisture gradients and to test lumber with wet surfaces.

Other applications may require measuring %MC on surfaces that are out of reach or in a relatively inaccessible area, such as under sinks or in ventilation areas. If this is the case, then using a pin-type moisture meter attachment may come in handy so the reading can still be obtained on the meter while the measurement is being taken at the source. Not all meters offer attachment ports for remote testing, EIFS testing or deep penetration. Typically this is an optional feature.







MOISTURE ANALYZERS

Moisture Analyzers:
Moisture analyzers are used in plastics, pharmaceuticals, and heat treatment processes, even trace moisture levels are controlled. Gas or liquid measurement applications of moisture analyzers include dry ashwardon processing, pure semiconductor gases, bulk pure gases, dielectric gases such as those in transformers and power plants, and natural gas pipeline transport. Due to the slow nature of traditional and manual laboratory moisture testing methods, automated moisture analyzers have been developed and can reduce the time necessary for a test from hours to just a few minutes.

Many different industries use moisture analyzers. They are used in the food industry to control the moisture. Excess amounts of moisture in food may lead to staleness or bacterial growth. Many food items are sold by their weight. To make sure customers aren't overpaying for water weight, an analyzer is used.

On the other hand, too low of a moisture level can reduce the calorie count or make the food dry. Moisture is an important factor that affects the consistency, taste, and shelf life of food. Moisture analyzers are also frequently used in quality control and other laboratories. Moisture analysis is used to determine the water content in crude oil, fuel, sewage sludge, and other products.

Moisture analyzers utilize the Loss On Drying (LOD) method to measure moisture. In this method, the moisture analyzer weighs a sample, heats it to dry it, and weighs it again once it's dry. The weight after drying is subtracted from the weight before, so the loss of moisture is determined using the loss of mass. The heat-generating system can vary from analyzer to analyzer. Some moisture analyzers use halogen, and some use infrared or glass-free metal heaters positioned above a precision balance. These types of moisture analyzers are ideal to use where there is no single setting that heats all samples evenly.

Principles of Moisture Measurement

Before presenting the various moisture measurements, it is important to define moisture content. Moisture content is normally expressed as a percentage by weight of either total product (wet basis) or dry product (dry basis).

Wet Basis Moisture Content:

$$M = 100 \times (\text{Wet Weight} - \text{Dry Weight}) / \text{Wet Weight}$$

Dry Basis Moisture Content:

$$M = 100 \times (\text{Wet Weight} - \text{Dry Weight}) / \text{Dry Weight}$$

From the above equations, wet basis moisture content cannot exceed 100%. Dry basis moisture may exceed 100% and is a non-linear function.

Moisture content may be determined by numerous techniques. These may be divided into two major categories, primary and secondary measurement.

Primary Moisture techniques involve direct chemical determination of water content, usually by extracting the moisture from the product.

All primary methods are destructive and time consuming. Primary methods are performed off-line, but are usually very accurate. Small sample size may not adequately represent bulk product.

The most common primary method is weight loss, in which a sample is weighed, dried until no further weight loss and then re-weighed.

Other methods include Karl-Fischer Titration. The accuracy of all off-line primary methods is dependent upon laboratory instrument accuracy and the skill of lab personnel.

Since off-line methods require taking a product sample from the process, the sampling method must provide consistent product samples for testing.

Secondary Moisture techniques measure a property of the variable (moisture) rather than the variable directly. All continuous moisture analyzers utilize secondary measurement principles and must be calibrated against a primary reference technique. They have the advantage of continuous or rapid sampling measurement and may be used for real-time process monitoring and control.

Without continuous measurement capability, a typical process would be controlled by taking product samples and performing laboratory analysis. These methods are time consuming. By the time a result is obtained, the process may well have changed substantially.

In its simplest form, a continuous moisture analyzer will provide trend information between laboratory sampling, even if left uncalibrated. In this form the instrument is a useful set point controller, where the process set point may be adjusted after each laboratory sample.

There are numerous online moisture measurement techniques. Dielectric Measurement and Near InfraRed Reflectance are two that have proven to be accurate and reliable in many industries.

RF Dielectric Technique

This method relies on the relatively high dielectric of water relative to most solids.

Numerous techniques have been developed to determine dielectric, including radio frequency, microwave, and time domain reflectometry. In order to measure the relative dielectric of a material it is necessary to electrically couple the material to the sensing circuit. This may be done by placing the material between two parallel electrodes, but this does not lend itself readily to online application. If the sensing circuit operates at radio frequency, it is fairly simple to propagate RF energy through the material and thus couple to the product without physical contact. Planar fringe field electrodes provide a single-sided measurement structure less obstructive to the process.

The electrical analogy of a solid product is a capacitor in parallel with a leakage conductance. These components are both influenced by moisture, but whereas dielectric is related in a very predictable manner, the loss factor is not. The combined components represent a complex impedance which can be easily measured, but which may be influenced by variables other than just moisture.

True dielectric moisture instruments are rare, since most of the low cost instruments make no attempt to separate the dielectric and loss components. The lowest cost instruments make little or no attempt to even measure the combined impedance with any long-term stability and repeatability.

The Sensortech Systems Dielectric Measurement Technique is refined to the extent where the two components are completely isolated and can be measured independently. The patented resonant frequency principle improves accuracy and repeatability.

It is a penetrating measurement and can measure non-homogeneous products.
It has a large measurement area that provides a more representative, bulk average moisture for the product.
It is relatively inexpensive compared to other online techniques.
It is very reliable and robust, with no moving parts to wear or break down.
The various mechanical sensor designs suit a wide range of process conditions and can be used in high temperature environments.

IR Technique

The near infrared reflectance, NIR or IR, technique is a widely used technology for online moisture testing. Its popularity is due in large part to the ease with which it can be applied.

A light source (typically quartz halogen bulb) is collimated and filtered into specific wavelengths. The filters, mounted in a rotating wheel, chop the light into a series of pulses of specific wavelength. The filtered beam is directed onto the surface of the product to be measured. A portion of the light is reflected back to a detector (usually lead sulfide). Specific wavelengths of light are absorbed by water. If the filters are chosen such that one wavelength will be absorbed by water (sample beam) and one wavelength will be unaffected by water (reference beam), then the amplitude ratio of the two reflected wavelengths will be proportionate to the amount of water in the product. The ratio technique eliminates effects of product distance and source aging.

Ease of application. Typically mounted 6 to 10 inches above product. Moderate product height variations have little influence on measurement.

Small spot measurement area in conjunction with scanning frame provides product profile.

Specific wavelengths may be chosen to measure variables other than moisture.

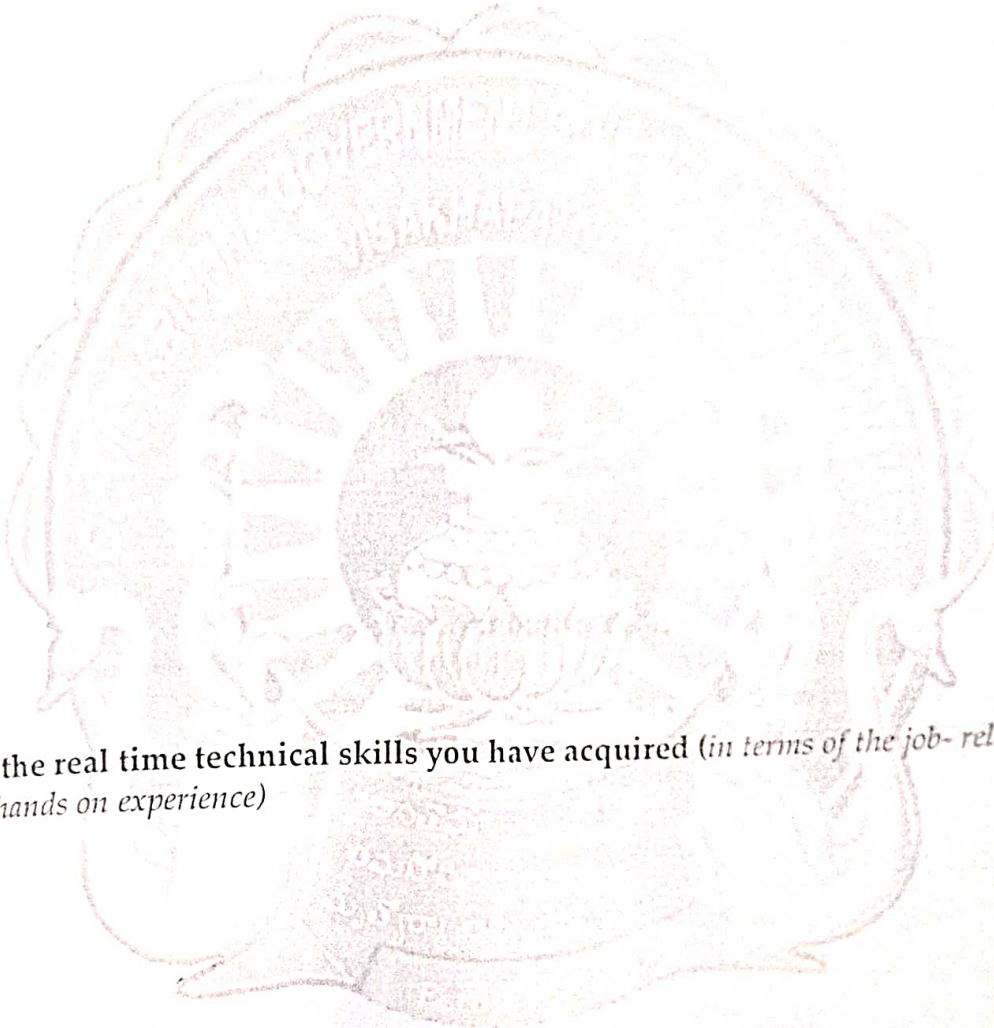
FUTURE SCOPE

If throwing some light on the future of this program, so this project has great scope in future. In future we will include many features to this program. We have countless amendments to make on this project from security & encryption of data to the frontend work.

While everything discussed in this chapter may seem like a lot of additional work that takes away from the "real" work of administering systems, actually the opposite is true: only by keeping this philosophy in mind will you give your users the service they deserve, and reach your full potential as a system administrator.

OUTCOMES DESCRIPTION

Describe the work environment you have experienced (in terms of people interactions, facilities available and maintenance, clarity of job roles, protocols, procedures, processes, discipline, time management, harmonious relationships, socialization, mutual support and teamwork, motivation, space and ventilation, etc.)



Describe the real time technical skills you have acquired (in terms of the job-related skills and hands on experience)

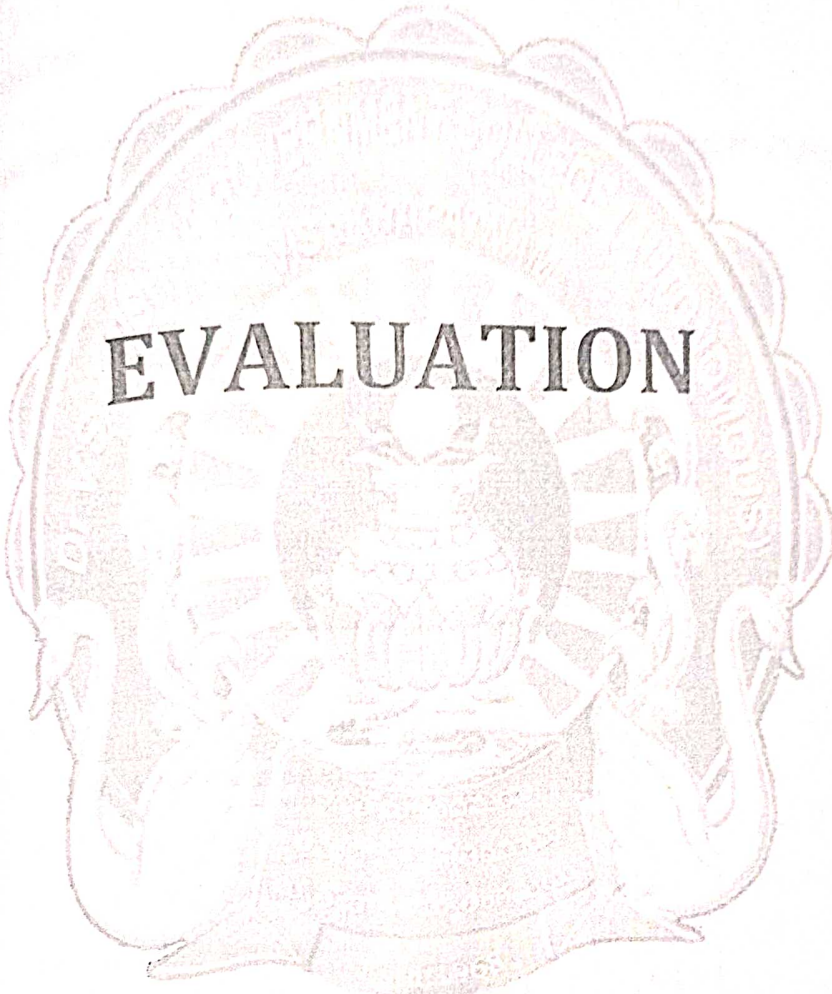
Describe the managerial skills you have acquired (in terms of planning, leadership, team work, behaviour, workmanship, productive use of time, weekly improvement in competencies, goal setting, decision making, performance analysis, etc.)

Describe how you could improve your communication skills (in terms of improvement in oral communication, written communication, conversational abilities, confidence levels while communicating, anxiety management, understanding others, getting understood by others, extempore speech, ability to articulate the key points, closing the conversation, maintaining niceties and protocols, greeting, thanking and appreciating others, etc.)

Describe how you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity

Describe the technological developments you have observed and relevant to the subject area of training *(focus on digital technologies relevant to your job role)*

EVALUATION



Student Self-Evaluation of the Semester Internship

Student Name: BALAGA CHANDRA SEKAIR

Registration Number: E20207002

Term of Internship: 3 Months From: 01.03.2023 To: 31.05.2023

Date of Evaluation:

Organization Name & Address: Dr. V. B. Krishna Government Degree & PG College (A),
Visakhapatnam.

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 with community	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 Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	OVERALL PERFORMANCE	1	2	3	4	5

Date:

Signature of the Student

Evaluation by the Supervisor of the Intern Organization

Student Name: BALAGA CHANDRA SEKAHR

Registration Number: E.20207002

Term of Internship: 3 Months

From: 01.03.2023

To: 31.05.2023

Date of Evaluation:

Organization Name & Address: Aurobindo Pharma Limited Unit -15

Lankiliputera, Visakhapatnam, Andhra Pradesh.

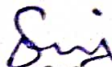
Name & Address of the Supervisor with Mobile Number:

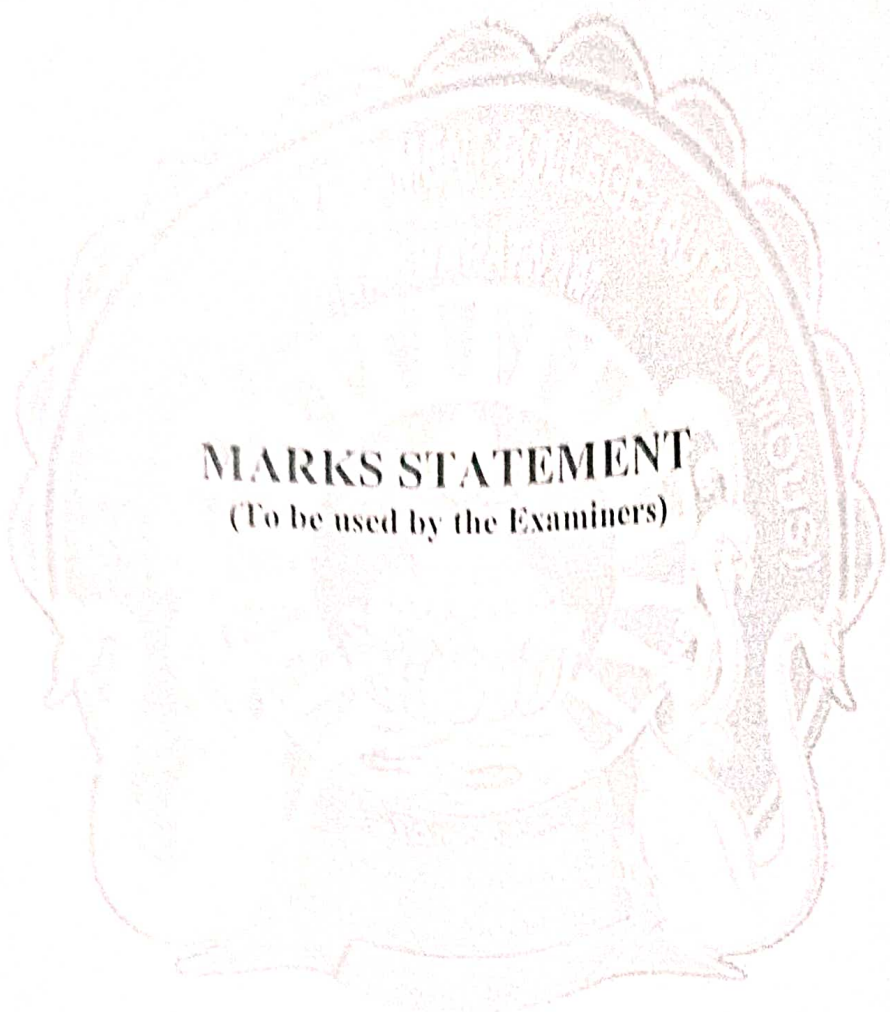
Note: Please note that your evaluation shall be done independent of the student's self-evaluation.

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 with community	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 Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	OVERALL PERFORMANCE	1	2	3	4	5

Date: 31/10/2023


Signature of the Supervisor



INTERNAL ASSESSMENT STATEMENT

(Assessment by the industry / enterprise / organisation)

Name of the Student: BALAGA CHANDRA SEKAHR

Programme of Study: B. Sc

Year of Study: 2022-2023

Group: MATHS , CHEMISTRY, INDUSTRIAL CHEMISTRY

Register No/I.T. No: E20207002


Name of the College: Dr. V. S. Krishna Government Degree & PG College (A)

Visakhapatnam.

University: Andhra University, Visakhapatnam.

S.No.	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	Project Log	10	10
2.	Project Implementation	20	17
3.	Project Report	10	10
4.	Presentation	10	10
GRAND TOTAL		50	47

Date: 31/05/2023


Sign. of the
HR Manager/Head of the Division

Seal: AUROBINDO

EXTERNAL ASSESSMENT OF PRACTICALS
(To be used by the Examiners)

Name of the Student: **BALAJA CHANDRA SEKATHI**
 Programme of Study: **B.Sc.**
 Year of Study: **2022-2023**
 Group: **MATHS, CHEMISTRY, INDUSTRIAL CHEMISTRY**
 Register No/H.T. No: **E20207002**
 Name of the College: **D. V. S. Krishna Government Degree College, H.T. Road, U.T., Visakhapatnam.**
 University: **Andhra University, Visakhapatnam.**

S. No.	Evaluation Criterion	Maximum Marks	Mark Obtained
1.	Internship Evaluation	50	
2.	For the grading giving by the Supervisor of the Intern Organization	20	
2.	External Viva - Voce	50	
TOTAL		150	
GRAND TOTAL (EXT. 150 M + INT. 50 M)		200	

Final Evaluation Committee

1. Teacher Guide:
2. Internal Expert:
3. External Expert (Nominated by the affiliating University): *[Signature]*
4. Signature of the Principal/HOD with Date & Seal:

THANK YOU



PHOTOGRAPHS

