Savitribai Phule Pune University

Internship Report

P.G DEPARTMENT OF CHEMISTRY

G.M.D, ARTS, AND B.W COMMERCE AND SCIENCE COLLEGE, NASHIK.

G.M.D, ARTS, AND B.W COMMERCE AND SCIENCE COLLEGE, NASHIK.

CERTIFICATE

This is to certify the work incorporated in the internship was satisfactorily out by MS Gaware Puja Baban of M.Sc. Organic Chemistry. She is a Bonafide student at this college. She has completed this Internship under supervision and guidance during the academic year 2022-2023. This project work submitted by her original and the scientific information obtained from other sources have been duly acknowledged. (CHO-453)

Gaware 12/5/23

Prof. Dr. Manoj Gaware
Head Department of Chemistry
HEAD
DEPARTMENT OF CHEMISTRY
G.M.D. Arts, B.W. Commerce
and Science College, Sinnar

PRINCIPAL
G.M.D.Arts, B.W.Commerce and
Science College, Sinnar, Dist. Nashik

12.05.2023
Examiner

REVE PHARMA

Works : Plot No. 78, STICE, A/p Musalgaon,Tal. Sinnar, Dist. Nashik 422 112.
Telephone : 02551-240138/39. **Telefax** : 02551-240127.
Email : revepharma@gmail.com, info@revepharma.com. **Website** : www.revepharma.com

Date: 11.05.2023

TO WHOMSOEVER IT MAY CONCERN

This to certify that **Miss Pooja Baban Gaware** has completed the training from dated on 10.04.2023 to 10.05.2023.

She has undergone training of **Tablet, Capsule, Liquid, Oil, Cream & Ointment Manufacturing, Filling & Packing operations.**

We wish good luck for her future life.

For **REVE PHARMA**

Authorized Signatory

HR Executive

REVE PHARMA

ACKNOWLEDGEMENT

First, I would like to thank Miss. Sonali Satpute for giving me the opportunity to do an internship within the organization.

I would like to thank my Head of the Department **Prof. Dr. Manoj Gaware** for his constructive help throughout my internship.

I am extremely great full to my department staff members and friends who helped me in successful completion of this internship.

Organization information:

It was the dream of two professionals to have their own pharmaceutical manufacturing unit. They always dreamed of manufacturing Standardized Ayurvedic Products. They wanted to be a media to spread this vast ancient knowledge to mankind in the form of effective products.

Reve Pharma came into existence in the year 2007. They were inspired by their mentors, Mr. D.J.Dhamne and Mr. Yogesh Deore, both with experience of about 45 years.

People
These two people, Milind Katariya and Anjali Katariya, after an experience of about 10 years, came together to build this dream and started with "Reve Pharma".

Reve Pharma has a board of technical directors, Dr. Anil Ghogre, Dr. C.L.Bhingare and Dr. Santosh Tambe.

Introduction

Location: Plot - 78 STICE Musalgaon Tal- Sinnar Dist , Nashik, Maharashtra, India.

Site Capabilities: Manufacturing Facility- Vitamins & Minerals Premixes

Processing, Primary Packing, Secondary Packing, and

Sachet filling machine

- General Tablets Granulation Area, Three Compression
- cubicles and three packing lines
- State of art Quality laboratory-
- Qualified and competent staff
- Separate Wet and Instrument Lab
- Class 100,000 Microbiology Setup
- Labs are well equipped with latest infrastructure.
- USFDA, WHO-GMP, ISO 9001, 14001,

  22000,HACCP,SQF,Etc certifications.

Mission:

We Shall ensure the Quality, reliability, and innovation thereby enhancing the sustainability and values for all stakeholders.

Values:

Knowledge- Expertise and Innovation

Action- Entrepreneurship and Integrity

Care- Trusteeship and Humility

Impact- Performance and Resilience

The values that guide our culture are embodied in our purpose-

"Doing Well and Doing Good "

Departments in the manufacturing of Tablets:

Here are the departments in which the manufacturing of tablets take place:

Store

Quality Assurance

Quality Control

Production

PPIC (Production planning and Inventory control)

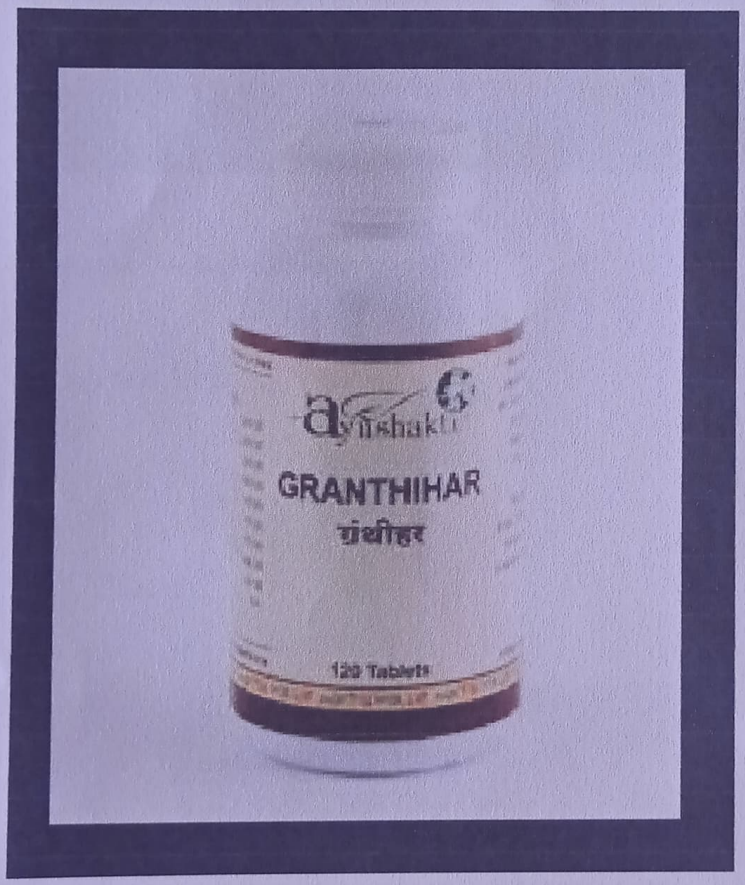
Account

R&D (Research and Development)

LIST OF PRODUCTS

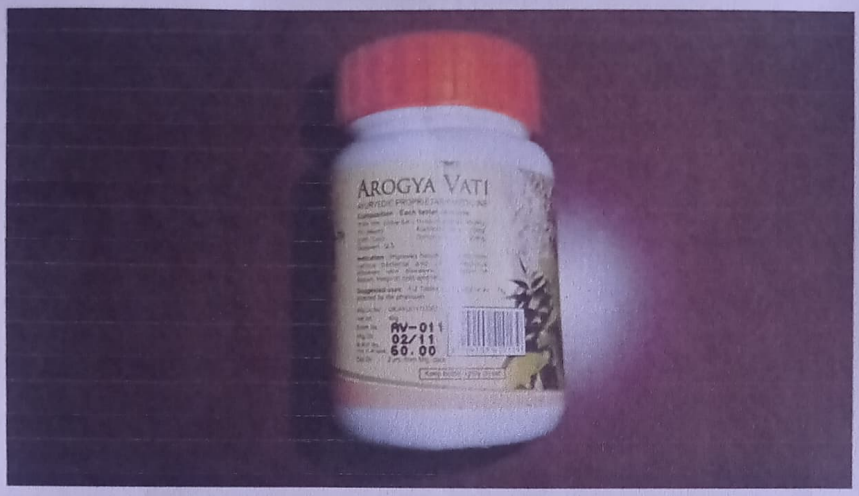
Here are the products I got a chance to work on. From the initial phase to the Packaging phase.

1. GRANTHIHAR Tablet:



Usage: Adenitis, ovarian cyst, tube blocks, inflammation, uterine bulkiness,any block caused by inflammation or fibrosis.

2. Manas Kesharogya vati tablet:

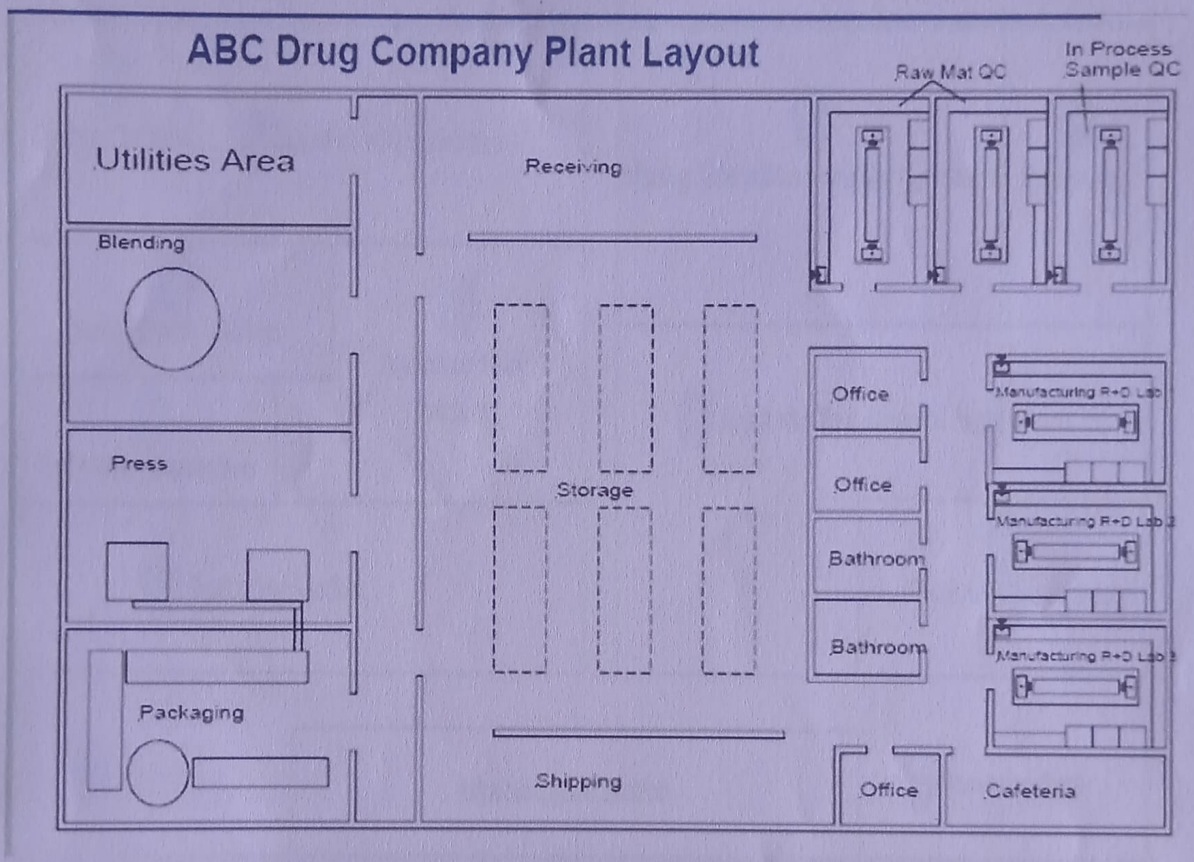


Usage: Used for the health of hair.

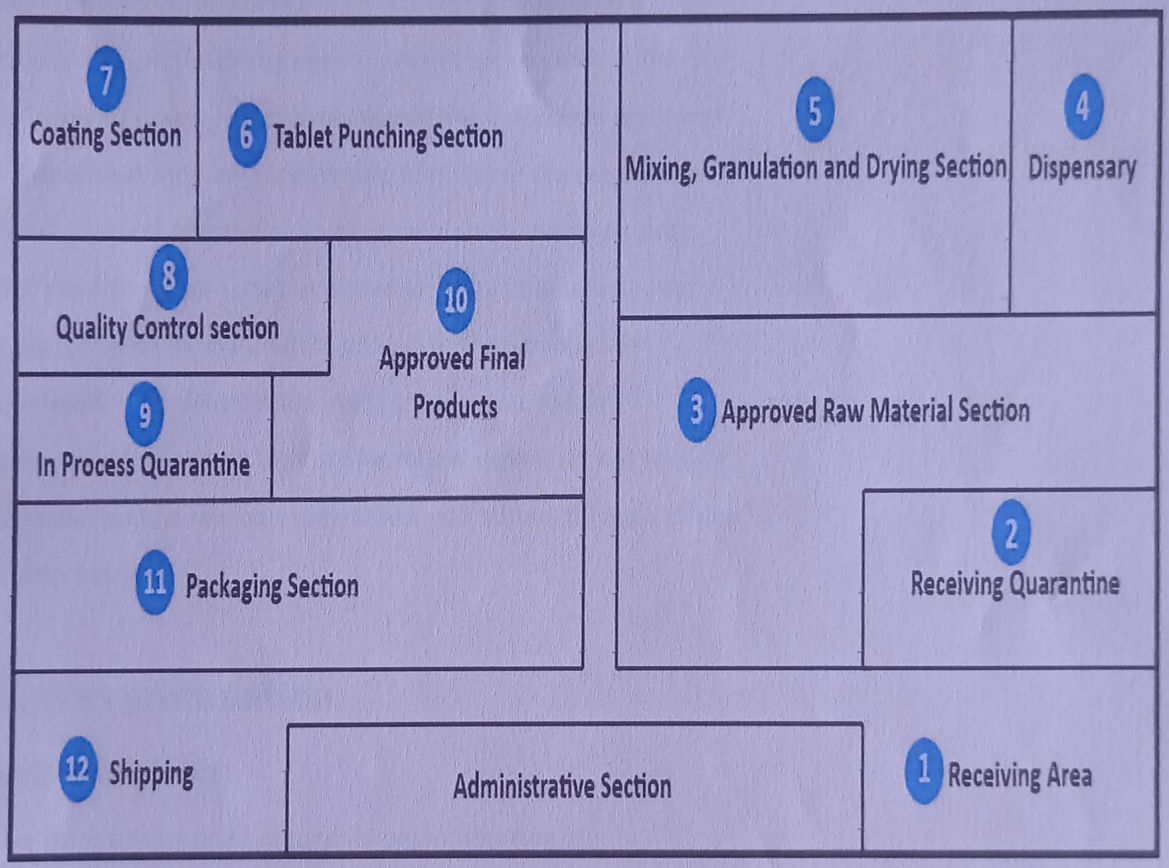
3. Livo fine Tablets:

Usage: Used for the well being of Liver.

Layout


ABC Drug Company Plant Layout
Raw Mat QC
In Process Sample QC
Utilities Area
Receiving
Blending
Press
Storage
Office
Office
Bathroom
Bathroom
Manufacturing R+D Lab
Manufacturing R+D Lab 2
Manufacturing R+D Lab 3
Packaging
Shipping
Office
Cafeteria

Layout Of Tablet Manufacturing Section:



Tablet Manufacturing:

Manufacturing of the tableting blend:

In the tablet pressing process, the main guideline is to ensure that the appropriate amount of the active ingredient is in each tablet. Hence all the ingredients should be mix well. If the sufficiently homogeneous mixture of the components cannot be obtained with simple blending processes, the ingredients must be granulated prior to compression to assure an even distribution of the active compound in the final tablet. Two basic techniques are used to granulate the powders for granulation into the tablets. Wet granulation and Dry granulation. Powders that can be mixed welled do not require granulation and can be compressed into tablets through direct Compression.

1. Wet granulation

Introduction:

The most widely used process of agglomeration in a pharmaceutical industry is wet granulation. Wet granulation process simply involve the wet mass of the powder blend with a granulating liquid. Wetting size and drying are important steps in involved in the wet granulation.

Process:

1. Mixing of the drugs and excipients.
2. Preparation of the binder solution

3. Mixing of the binder solution with powder solution to form wet mass.

4. Drying of the moist granules.

5. Mixing of the screened granules with disintegrant, lubricant and glidant.

The wet granulation technique has some limitations.

2. Dry granulation:

Introduction:

In dry granulation process the powder mixture is compressed without the use of solvent and heat. It is the least desirable of all methods of granulation. The two basic procedures are to form compact of material by compression and then mill to the compact to obtain a granules. Two methods are used for dry granulation. The most widely used method is slugging where the powder

is recompressed and the resulting tablet or slug are milled to yield the granules. The other method is to precompress the powder with the powder with pressure rolls using a machine such as Chilosonator.

Roller compaction:

The roller compaction of powder by means of pressure roll can also be accompanied by machine called Chilosonator. Unlike tablet machine the chilosonator turns out to be a compacted mass in a steady continuous flow. The powder is fed down between the powder into the

compaction zone like slugs. The aggregates are milled or screened out for the production into granules.

Processing Steps:

1. Selection of raw materials
2. Weighing
3. Size Reduction
4. Mixing (Precompression or slugging)
5. Screening
6. Lubrication
7. Compression

This method has also some advantages and disadvantages too.

3. *Direct compression:*

This method is used when a group of ingredients can be blended and placed in a tablet press to make tablet without any of the ingredients having to be changed. This is not very common because many tablets have active pharmaceutical ingredients which will not allow for direct compression due to their concentration or excipients used in formulations are not conductive to direct compression. Granulation is the process of collecting particles together by creating bonds between them.

This method is utilize simple operation it requires mixed all the ingredients then go for the direct compression using compressor machine. This method used when the

small dose of drug is directly used with diluent.

Manufacturing of Tablet:

First the powder is filled into the die from above. The mass of powder is determined by the position of the lower punch in the die, the cross section area of the die, and the powder density. At this stage adjustment to the tablet weight are normally made by repositioning the lower punch. After the die filling upper punch is lowered into the die and the powder is uniaxially compressed to a porosity of between 5 and 20%. The compression can takes place in one or two stages and for commercial production occurs very fast. Finally the upper punch is pulled up and out of the die and the tablet is ejected from the die by lifting the lower punch until its upper surface . is flush with the top face of the die. This process is repeated for each tablet.

Common problems encounter in during tablet manufacturing operation include:

- Fluctuations in tablet weight, usually caused by uneven powder flow into the die due to poor powder flow properties.
- Fluctuations in dosage of the active pharmaceutical ingredient, caused by uneven distribution of the API in the tableting blend.
- Sticking, mottling ,orange pill effect ,capping,

lamination, etc., are the problems were encounter in the tablet manufacturing.

Tablet Coating:

An application of coating material to the exterior of tablet with the intension of conferring benefit and properties to the dosage form over uncoated variety.

Objective:

To mask color, odor and taste of drug.

To provide physical and chemical protection to drug.

To control release of drug from the tablet.

To provide physical elegance.

Types of Tablet Coating

- Sugar coating.
- Film coating.
- Press coating.

The materials used for coating may largely comprise sucrose, water soluble film coating polymers or substances which are soluble in intestinal secretions but not in the stomach. These types of coating can be applied by the pan or fluid bed processes. The compression coating technique is suitable for sugar and enteric coatings but not for film. The tablet coating contains use of polymer , coloring agent, etc.

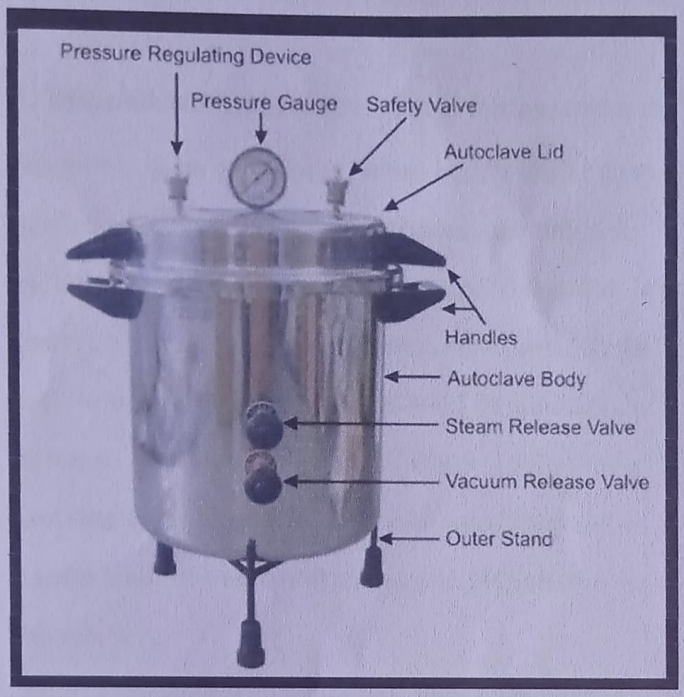
Quality Control Section

It is the essay method in substance such as drugs, packing, material, raw material, adjuvant, containers are checked according to the monograph as per standards given to the pharmacopoeia.

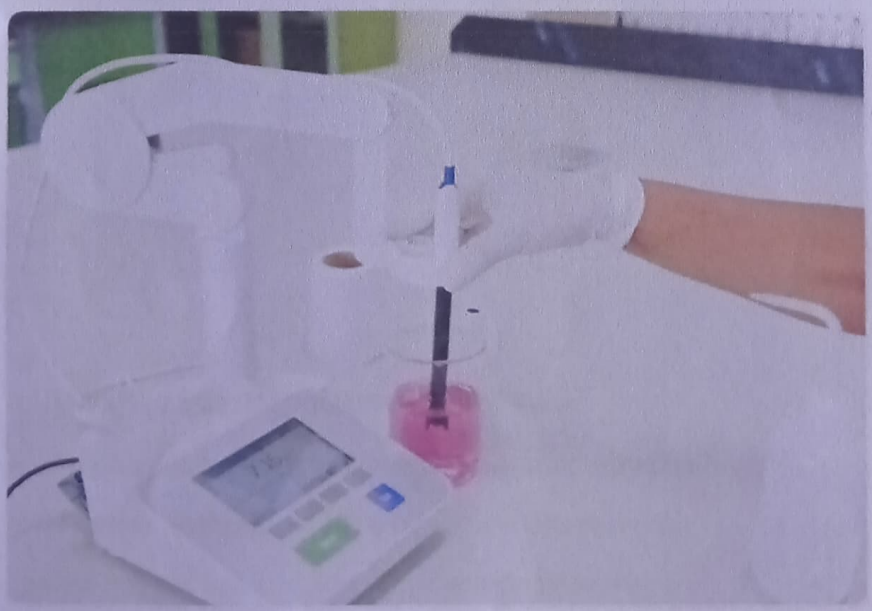
Following are the equipment's used in QC section:

1. Magnetic stirrer
2. Electronic and simple balance
3. Capsule disintegration tester
4. Dissolution test apparatus
5. pH meter
6. Autoclave
7. UV and visible spectrophotometer
8. Leaker test apparatus.

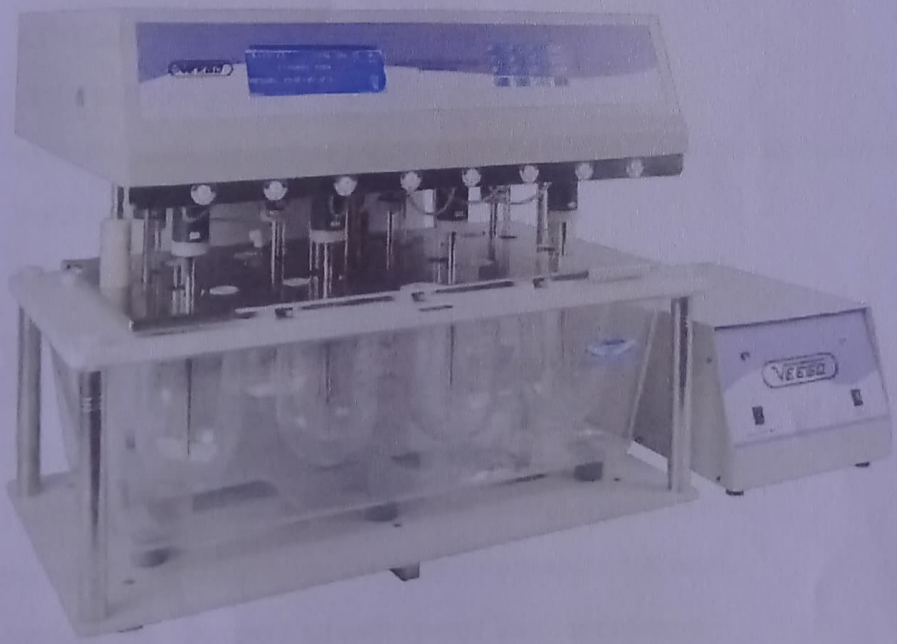
1. Autoclave: Autoclave is a device used to sterilize the equipment and supply by subjecting them to high pressure saturated at 121 degree Celsius for around 10-15 minutes.



2. pH meter: A pH meter is an electronic device used for the measuring the pH of liquid formulation. A typical pH meter consist of a special measuring probe connected to an electronic meter that measure the display the pH Reading.



3. Dissolution Test Apparatus: In this apparatus the dissolution study of tablet is carried out . A single tablet is taken and placed in wire mesh basket connected to variable speed motor by means of a shaft this basket is immersed in the dissolution medium contain in 100ml; flask. The flask is maintained at 37+-0.5 degree Celsius by means of constant temp bath. Motor is adjusted to specified speed and samples of fluid are withdrawn at regular time interval to determine the amount of drug in the solution.



4.UV-Visible Spectrophotometer: UV Visible spectrophotometer is used in pharmaceutical industry due to its various applications. It is one useful in detection of impurities, Food industry, forensic science, qualitative

and quantitative analysis are carried out with the help of the same.

CONCLUSION

In the end I am glad to tell you that training in REVE PHARMA, Sinnar Dist- Nashik was an excellent and fabulous experience. During the training I learned about the Pharmaceutical company and above its working the theoretical knowledge is worth for getting a degree, and it is accessible in the book. We can only imagine about the thing we read, but practical life is always different and excellent one. During My training period, I had seen the various instruments and apparatus in the industry. The highly sophisticated instruments that work precisely must be operated with intense care for optimum use. We could acquire a lot of information regarding the latest instruments and their working procedures. Similarly, from practical point of view a pharmaceutical company is very difficult. During the training session I tried to my level best to gain practical

knowledge as much as I can. I improved my basic classified doubts and also understood the importance of maintaining of quality of products at pharmaceutical company.

I was successfully able to complete my short venture of training. Lastly, I hope that my training report fulfill the intended requirements.