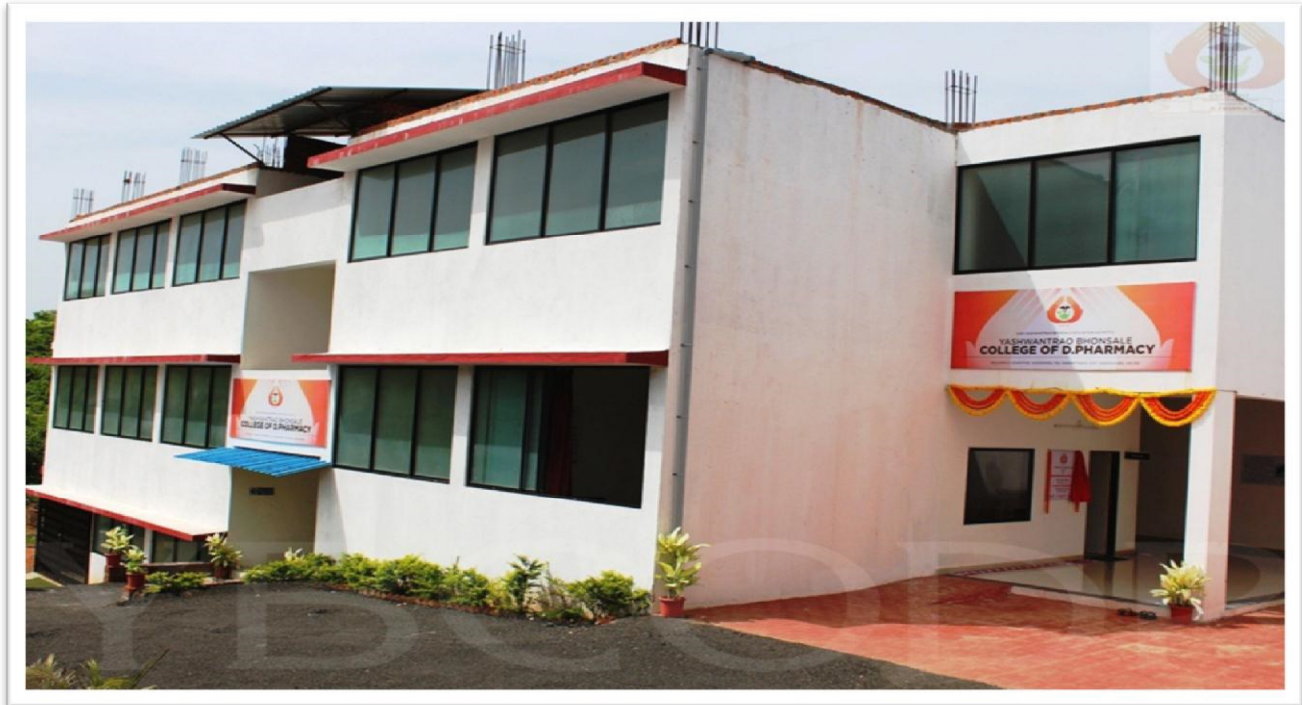




Shri. Yashwantrao Bhonsale Education Society's
YASHWANTRAO BHONSALE COLLEGE OF D. PHARMACY

A/P.: Charathe, Vazarwadi, Tal: Sawantwadi, Dist: Sindhudurg (416 510)
Tel.: 02363-272251



REPORT
ON THREE DAYS INDUSTRIAL TRAINING AT
“M/S Nutralytica Research Pvt. Ltd. Dindori, Nashik”



Nutralytica Research

ANALYZING DATA, DELIVERING SOLUTIONS

Workshop Schedule:

- Date: From 2nd July 2018 to 4th July 2018.
- Time: 10.00am -05.00 pm;
- Organized by: M/S Nutralytica Research Pvt. Ltd. Dindori, Nashik
- Sponsored by: **MSBTE** (Maharashtra State Board of Technical Education)

Time table for 3 days Training

Sr. No.	Date	Department
1	02/07/2018	Wet Chemistry & AAS
2	03/07/2018	HPLC & Microbiology
3	04/07/2018	Mass Spectrometry

Introduction:



Nutralytica Research Pvt. Ltd. was established in 2012.

The testing lab is accredited as per ISO/IEC-17025:2007 standard from NABL (National Accreditation Board for Testing and Calibration Laboratories).

The lab project is approved by ICAR (Indian Council for Agriculture Research) and FSSAI (The Food Safety and Standards Authority of India) and having Chemical, Microbiological and Research Laboratory. The NRPL Lab has a state of the art infrastructure having 10,000 square foot area with clean air partitions, air handling units, epoxy flooring and all the

high-end analytical instruments. The facility is located in a very environmental friendly area, surrounded by grape and sugarcane farms and natural flora & fauna.

The facility is located on Dindori-Vani road, 40kms away from Nasik and 300kms from Mumbai. It is management's commitment to maintain Good Laboratory Practices and Good Professional Practice of our testing Services to our clients

Training Objective:

The main **objective** of **Industrial Training** to expose the faculty to actual working environment and enhance their knowledge and skill from what they have learned in the institute. Another purpose of this program is to instill the good qualities of integrity, responsibility and self-confidence. Industrial visit is considered as one of the tactical methods of teaching. Main aim of industrial visit is to provide an exposure practical working environment. Visiting different companies actually help and build a good relationship with those companies. After visiting an industry can gain a combined knowledge about both theory and practical.

In this context, **Three Days** industrial training was sponsored by **MSBTE**, & organized by **Nutralytica Research Pvt. Ltd.**, Nashik for faculties to experience and understand actual life situations in industrial organizations.

The training adopted the processes demonstration-cum-discussion, group work, Question – answer session.

Training Details:

Day One: 2nd July 2018

Department: Wet Chemistry and AAS

Responsible Person:

- i. Ms. Vidya Chaudhari,
- ii. Ms. Charushila Pawar
- iii. Mr. Subhash Khillare

First day of training program was started in morning session at 11.00 Am with introduction of various analytical instruments. The trainer introduced their departments very well. There were 35 numbers of participants from different academic institutions present and we divided in 3 batches.

Trainer described in brief that, Investigation in food content, whether by the food industry, governmental agencies, required determination of food composition and

characteristics. As we know, different kind of food has various compositions. Therefore, consumers need to know the composition of food to ensure food safety and food qualities guaranteed. Combination of amino acids with their respective tastes is a key determinant for the taste of food.

For being there, we have been trained to analyze some ingredients in foods such as carbohydrate, vitamins, spices, minerals, amino acid/proteins etc. We also been introduced with many ways to determine the total Ash, LOD, PH, Moisture content, Vitamins, Proteins, Carbohydrates present in foods for example by using various Instruments & Machine.

We had introduced with no. of instruments and their working such as Hot air oven, Digital Melting point apparatus, Polarimeter, Refractometer, Conductivity meter, PH Meter, Karl Fischer Titrator, Tintometer, FTIR, UV spectrophotometer, FOSS assembly to determine protein.

The trainer introduced us the working and use of each instrument by giving no. of examples such as the purity and quality of oil is depends upon the refractive index of oil, the Refractive Index detector's sensitivity is limited. This detector can be very useful for detecting those compounds that are non-ionic, do not adsorb in the UV, and do not fluoresce. This is a property of all liquids and solids through which light can pass. As the light passes through the material, the beam is refracted and the extent of this refraction is measured by the Refractive Index.,

Polarimeter is used to analyze sugar compounds, PH meter is used to check the PH of food material, Refractometer is used to determine the oil/water ratio, Karl Fischer titrator is used to determine the moisture content, the color of oil is observed by using Tintometer. Trainer continued next that, they follow the FSS guideline as standard to check the results.

In the afternoon session, we did the analysis of food sample “Shankarpali” we had analyzed the LOD, Total Ash content, protein content by using FOSS assembly etc. we learnt 3 processes for protein estimation 1. Digestion, 2. Distillation, 3. Titration.



Later on, session started in the afternoon session at 2.00 pm. Mr. Subhash Khillare gave briefly knowledge about Atomic Absorption Spectroscopy. He introduced about **Atomic absorption spectroscopy (AAS)** is a Spectroanalytical procedure for the quantitative determination of chemical elements using the absorption of optical radiation (light) by free atoms in the gaseous state.

In analytical chemistry the technique is used for determining the concentration of a particular element (the analytic) in a sample to be analyzed. AAS can be used to determine over 70 different elements in solution, or directly in solid samples via electro thermal vaporization,



On the first day, session was concluded with the Question- Answer session. Many of the faculty members asked different question and query while introducing the instrument. All faculty members were satisfied with session.

Day Two: 3rd July 2018

Department: Microbiology and HPLC

Responsible Person:

- i. Mr. Pawar Kumar,
- ii. Mr. Amit Aware
- iii. Mr. Akshay Pardeshi
- iv. Mr. Rajashekar Balla
- v. Mr. Gopal Patil

On the 2nd day, session started at 10.00 am. In this session high performance liquid chromatography was introduced to the faculty members. Mr. Pawan Kumar gave information about HPLC. Chromatography is a technique to separate mixtures of substances into their components on the basis of their molecular structure and molecular composition. This involves a stationary phase (a solid, or a liquid supported on a solid) and a mobile phase (a liquid or a gas).



High performance liquid chromatography (HPLC) is basically a highly improved form of column liquid chromatography. Instead of a solvent being allowed to drip through a column under gravity, it is forced through under high pressures of up to 400 atmospheres. That makes it much faster. All chromatographic separations, including HPLC operate under the same basic principle; separation of a sample into its constituent parts because of the difference in the relative affinities of different molecules for the mobile phase and the stationary phase used in the separation

In the evening session Mr. Gopal Patil explained microbiology department. The microbiology lab is equipped with class I biosafety area and class III Inoculum area. The flooring is epoxy-coated and there is a separate AHU (Air Handling Unit) for particulate air for good hygiene and accurate test result.

Mr. Gopal Patil briefly introduced the number of microorganisms to us. Some of them are as follows; Pathogens, Total Plate Count, B. Cereus, Campylobacter, E-coli, Salmonella/Shigella and Pseudomas Species. Etc.

Microbiological assay of Vitamins in food, Pharmaceutical, and Nutraceutical products: - Microbiological assay is an elaborated comparison of the exhibition of growth of the microbes by a measured concentration of the vitamins under investigation against that produced by the known concentrations of a standard preparation of vitamins with a known concentration.

Technical expertise is available to conduct microbiological analysis for a range of application where microbial analysis can be used as an effective tool to determine important features and characteristics of the product.

Objective evidence is required to determine if the microbial content of water is within the limits depending on its intended use. Harmful microbes can cause immediate health effects.

On the second day, session was



concluded with the Question- Answer session. Many of the faculty members asked difficulties and queries to the resource person. Resource person answered to all faculty members satisfactorily.

Day Three: 4th July 2018

Department: mass spectrometry

Responsible Person:

- i. Mr. Suresh Gaikwad
- ii. Mr. Govind Downgrade

On the 3rd day, session started in the morning at 10.00 am. In this session, Mr. Suresh Gaikwad explained mass spectrometry. He showed the instrument and how to operate the MS. **Mass spectrometry (MS)** is an analytical technique that ionizes chemical species and sorts the ions based on their mass-to-charge ratio. In simpler terms, a mass spectrum measures the masses within a sample. Mass spectrometry is used in many different fields and is applied to pure samples as well as complex mixtures.

Mr. Govind Downgrade showed practical demonstration on **Pomegranate**. In a typical MS procedure, a sample, which may be solid, liquid, or gas, is ionized, for example by bombarding it with electrons. This may cause some of the sample's molecules to break into charged fragments. These ions are then separated according to their mass-to-charge ratio, typically by accelerating them and subjecting them to an electric or magnetic field.



During industrial visit, we feel very much satisfied by acquiring information of various departments & knowing many new things. The industrial visit helps how to translate theory into practical. They are strictly following quality & safety aspects. It is desirable to review various aspects & sum up the industrial visit.

Feedback and valedictory session

The last session was followed by participant's feedback and distribution of certificates by distinguished guests. All the participants felt that the entire program was fruitful. We enjoyed three days training session and learnt so many good things. Later on, the coordinator Mr. Rahul Gedam congratulated to all participants for their successfully completion of training and gave the best wishes. After that certificate distribution program was carried out by the hands of MSBTE RBT member Mr. Mohite Sir and all trainer of Nutralytica Research.

Ms. Priti Patle and Ms. Namita S. Bhosale are very thankful to Mr. Tushar Rukari sir for gave the permission to attend the industrial training. Also we are very thankful to MSBTE that organized such a wonderful three days Industrial Training Program for all participants and also very grateful to Nutralytica Research lab in co-ordination with MSBTE for arrangement of accommodation and hospitality for all delegates.

Report prepared by: Ms. N. S. Bhosale and Ms. P. C. Patle

Photogallery





CERTIFICATE


Maharashtra State Board of Technical Education
 [Autonomous] (ISO / IEC 27001 : 2013) (ISO 9001 : 2008) 012477
 49, Kherwadi, Bandra (East), Mumbai - 400 051.

CERTIFICATE

Date: 4-Jul-18

This is to certify that Shri / Smt. Ms. Namita Subhanrao Bhosale

designation Lecturer, Institute 1825 Sri. Yashwantrao Chavan Education Society's Yashwantrao Bhosale College of D-Pharmacy, Sawantwadi-Sindhudurg

has successfully completed the training in Industrial Training

from 2-Jul-18 to 4-Jul-18 conducted by M/s. Nutrafyta Research Pvt. Ltd., Nashik

 Program Co-ordinator
  Deputy Secretary
  Director


Maharashtra State Board of Technical Education
 [Autonomous] (ISO / IEC 27001 : 2013) (ISO 9001 : 2008) 012478
 49, Kherwadi, Bandra (East), Mumbai - 400 051.

CERTIFICATE

Date: 4-Jul-18

This is to certify that Shri / Smt. Ms. Priti Chiplal Patil

designation Lecturer, Institute 1825 Sri. Yashwantrao Chavan Education Society's Yashwantrao Bhosale College of D-Pharmacy, Sawantwadi-Sindhudurg

has successfully completed the training in Industrial Training

from 2-Jul-18 to 4-Jul-18 conducted by M/s. Nutrafyta Research Pvt. Ltd., Nashik

 Program Co-ordinator
  Deputy Secretary
  Director