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Memorandum of Understanding between
Vaidyaratnam Ayurveda Research Institute, R& D Division of Vaidyaratnam Oushadhasala
(P) Ltd Ollur, Thaikattussery, Thrissur
and
St.James' College of Pharmaceutical Sciences, Chalakudy-680307

This Memorandum of Understanding (herein after referred to as (MoU) is made on the 20th December Day of 2021 between, St.James' College of Pharmaceutical Sciences, Chalakudy-680307 &M/s. Vaidyaratnam Ayurveda Research Institute , R&D Division of Vaidyaratnam Oushadhasala (P) Ltd , a Company duly incorporated and existing under the laws of India whose registered office and Corporate office at Thaikattussery, Ollur (PO), Dist. Thrissur, Kerala -680314 India ; hereafter referred as "Vaidyaratnam "on one part .

Whereas Vaidyaratnam is a research institute in the field of Ayurvedic Pharmaceutical science and St. James' College of Pharmaceutical Sciences, Chalakudy-680307 coming under Self Financing College affiliated to Kerala University of Health Sciences and having DSIR approved research centre named St James Hospital Trust Pharmaceutical Research Centre (SJHTPRC).

NO 17511 Rs 100
Vaidya ratnam
Oushadhasala
(P) LTD Thaikattussery


SIMI SEBASTIAN
(K.R. SEBASTIAN)
VENDOR No: 21
PANAMKUTTICHIRA
9-11-2021



WHEREAS both Vaidyaratnam and St. James' College of Pharmaceutical Sciences, Chalakudy-680307 (herein after called 'Parties') desire to carry out research and educational programme for promoting multidisciplinary interaction, herein referred to as "Programme", jointly with the diligence and efficiency as desired within this MoU in conformity with appropriate administrative, financial and educational practices and implement all such plans, activities and reforms as required for the Programme.

WHEREAS Vaidyaratnam - St. James' College of Pharmaceutical Sciences, Chalakudy-680307 agree to enter into a MoU with the terms and conditions as follows.

OBJECTIVES OF VAIDYARATNAM - St. James' College of Pharmaceutical Sciences, Chalakudy-680307 PROGRAMME

The major objectives for which the parties associate with each other are:

- a. To facilitate academic interactions among stakeholders of both Parties.
- b. To provide training to students by relevant experts from Vaidyaratnam and thereby striving to improve the knowledge and competency of eligible undergraduate /post graduate and doctoral students/ faculty of ----- in the field of Ayurveda.
- c. To share ideas and implement methods, for product development and process Research activities through project guidance mentoring and technological support from Vaidyaratnam.
- d. Collaborate to share and exchange information between both parties for mutual benefit and technology enhancement by inspecting the research outcome.
- e. To work on specific research areas mutually chosen by Vaidyaratnam and --St.James' College of Pharmaceutical Sciences, Chalakudy-680307 -in the field of Ayurveda for mutual benefit.
- f. Research Publications

THE PROGRAMME

The Parties have agreed to execute this MoU for Collaboration with the primary objective of establishing a Center Of Excellence in Ayurvedic research. The primary focus will be to provide training, project guidance and research activities.

This MoU is to formalize joint activities that will help to establish a mutually beneficial relationship built on academic, scientific and technological cooperation which include organizing workshops, conferences, collaborative research, hackathons, project guidance, internship, training programs, industry- institution interface as may be mutually agreed between the parties.

IMPLEMENTATION AND MONITORING

For implementing and monitoring of the programme, Vaidyaratnam and St. James' College of Pharmaceutical Sciences, Chalakudy agree that: Vaidyaratnam shall provide relevant experts/qualified trainers impartation of desired technological knowhow and project guidance as per

the mutually agreed schedule as well as offering research inputs and access to Ayurvedic pharmaceutical science kindly used in the Ayurvedic industry to graduate, postgraduate and doctoral students

It is fully acknowledged by Vaidyaratnam that -**St.James' College of Pharmaceutical Sciences, Chalakudy-680307** shall be the sole & exclusive proprietor of any or whole of the innovative advancements/ inventions /patents achieved during the course of this collaborative research with the exception that Vaidyaratnam may use any of the specific technology developed with their mutual inputs for free in their products or plants.

FACULTY EXCHANGE AND CONSULTANCY

It is highly encouraged to share skills and expertise of both the parties for mutual benefit. Sharing **St.James' College of Pharmaceutical Sciences, Chalakudy-680307** domain expertise as well as Vaidyaratnam Ayurveda Research Institute domain expertise will help both the parties to create a innovative culture.

NON-DISCLOSURE OF CONFIDENTIAL INFORMATION

The Parties shall keep all the information shared in terms of this Agreement as confidential. Any intellectual property rights of **Vaidyaratnam** including such technological innovations developed during the course of the program shall be vested with them as being its owners or their licensors wherever the context applies. The faculty and students of **St. James' College of Pharmaceutical Sciences, Chalakudy** who get the opportunity to obtain exposure to the intellectual knowhow of Vaidyaratnam shall not disclose the same by any means

Both the parties shall exclusively own and continue to retain all rights and title to its trade name/s, trade mark/s and logo/s and nothing contained herein is intended to assign or transfer any of the said rights in the trade names/trademarks and logo/s to the other Party.

FINANCE

Regarding the financial arrangements connected with the implementation of the program herein stated, **Vaidyaratnam** and **St. James' College of Pharmaceutical Sciences, Chalakudy** further agree that:

- a. Both the institutions will make use of only the existing employees throughout the implementation process of the Programme, and both the parties will not be under any obligation to hire more than the existing employees for the purpose.
- b. Both parties will perform their respective activities as agreed in this MoU on chargeable basis . This includes training of students/teachers and consultancy of project works based on the rules and regulations of both parties.

INDEMNITY

Both parties hereby indemnify and shall keep indemnified and protected the other party and their respective officers and employees from and against any claims or actions arising out of or in any way relating to the provision and implementation of the Programme as per this MoU.

DURATION

This MoU will be active for a period of FIVE Years from the date of this MoU. It will be extended for further period by mutual consent after evaluating the activities conducted.

TERMINATION

Either party has the right to terminate this MoU by giving ninety days written notice to the other party.

JURISDICTION

In the event of any dispute arising out of this MoU, the parties agree that the courts of Thrissur, Kerala alone will have jurisdiction.

The two parties of this MoU agree to act in good faith and in a spirit of mutual understanding and accommodation to facilitate the achievement of goals set under the Programme.

IN WITNESS WHEREOF the parties here to have caused this MoU to be signed in their respective names as of the day and year.

Signature With Seal

Dr. Yadu Narayanan Mooss
20/12/21

Dr. Yadu Narayanan Mooss
Executive Director,
Vaidyaratnam Oushadhasala (P) Ltd
Vaidyaratnam Ayurveda Research Institute
Thaikkattussery, Thrissur, Kerala - 680306

Rev. Dr. Antu Alappadan
20/12/21

Rev. Dr. Antu Alappadan
St. James' College of Pharmaceutical Sciences
St. James' Medical Academy
ST. JAMES' COLLEGE OF PHARMACEUTICAL SCIENCES
RIVER BANK, CHALAKUDY - 680307
ST. JAMES' MEDICAL ACADEMY
RIVER BANK, CHALAKUDY - 680307
THRISSUR, KERALA, INDIA

Date : 20.12.2021

Place : Chalakudy

Date : 20.12.2021

Place : Chalakudy

Witness

Dr. Sheela Karalam.B
20/12/2021

Dr. Sheela Karalam.B
Chief Scientist, Head R&D
Vaidyaratnam Ayurveda Research Institute
Thaikkattussery, Thrissur, Kerala-680306



Dr. K. Krishnakumar
20/12/21

Dr. K. Krishnakumar
Principal **Dr. K. KRISHNAKUMAR B.Sc., M.Pharm., Ph.D**
St. James' College of Pharmaceutical Sciences
Chalakudy - 680307
Principal
St. James' College of Pharmaceutical Sciences
St. James Medical Academy, GH Road
River Bank, Chalakudy - 680307



**MoU signing Ceremony, St. James' College of Pharmaceutical Sciences, Chalakudy
Vaidyaratnam Ayurvedic Research Institute, Thaikkattussery, at Multimedia Room-
SJCOPS on 20-12-2021**



VAIDYARATNAM TRAINING REPORT-1

The management of St. James' College of Pharmaceutical Sciences, Chalakudy organized a 30 days training programme at VaidyaratnamAyurvedic Research Institute, Thaikkattussery, Thrissur. Our beloved Principal Dr. K. Krishnakumar provided all the support for the best experience at Vaidyaratnam. 31 students from our college participated in this training programme. Under the leadership of Dr. Sheela and Dr. Aashish, we completed our training at VaidyaratnamAyurvedic Research Institute.

Our training programme was conducted in two phases due difficulties of Covid-19. The first phase was from 04-01-2022 to 10-1-2022 and the second phase was from 24-03-2022 to 07-04-2022. The classes were scheduled from 9:00 am – 4:00 pm daily. On the first day, we visited the Ayurveda Museum at Thaikkattussery. It was a nice experience. In the first week, the Vaidyaratnam team gave seminars on the concept of Classical Ayurveda, drugs and dosage forms used, it's merits and drawbacks. Later the classes extended to the application of Ayurveda in modern medicine and the Pharmaceutical field and also gave an introduction on the origin of Vaidyaratnam and the scope of Ayurveda in modern science. The following days continued with seminars on various topics like phytochemistry, pharmaceutical analysis, drug development, pilot plant set-up, pharmaceutical marketing etc. taken by the staff of Vaidyaratnam.

In the next week, we trained in New Drug Development Laboratory and studied on the formulation of various cosmeceuticals like shampoo, lip balm, cream, lotion, paste, gel etc. and also performed their evaluation tests. In the NPD Lab we made form change of classical Ayurveda drugs into modern dosage forms. Eg:- conversion of thaila into gel form for the application on foot crack.

In the following days we trained at their pilot plant and performed the preparation of hair oil, and pediatric cough syrup and their evaluation. In the next phase of training, they allowed us to familiarize with various analytical equipment used in the pharmaceutical field such as Flame photometry, UV, GC-FID, AAS, etc.

There is an herbal authentication lab in the institute, and on the following week, we were familiarized with the steps of herbal authentication, sample collection, sample preparation, powder microscopy and other evaluation tests. There was a large collection of specimens of herbal medicines including dried fruits, seeds, flowers, and leaves stored in air-tight jars and some in formalin solution with properly labeled. We also saw two samples of puranagritham which means cow's ghee stored for long years. One sample was old more than 75 year and another sample was of more than 100 years. There was also a well-prepared herbarium and we studied how to prepare an herbarium specimen. The herbal authentication lab was very informative.

The training ended with our project presentation. It was presented by five groups consisting of three members each. The entire event was really useful. With the support provided by the Vaidyaratnam team, our students were able to improve their technical skills and knowledge. The entire team at Vaidyaratnam was really helpful and supportive that they provided us with a friendly atmosphere.



VAIDYARATNAM TRAINING REPORT-2

The management of St. James' College of Pharmaceutical Sciences, Chalakudy organised a 30 days training programme at Vaidyaratnam Ayurvedic Research Institute, Thaikkattussery, Thrissur. Our beloved Principal Dr. K. Krishnakumar provided all the support for the best experience at Vaidyaratnam. About 21 students from our college participated in this training programme. Under the leadership of Dr. Sheela Karalam.B and Dr. Ashish we completed our one-month training at Vaidyaratnam Ayurvedic Research Institute.

Our one-month training programme was started on December 1st and continued till 31st of December. The classes were scheduled at 9:00 am – 4:00 pm. On the first day, we visited the Vaidyaratnam Ayurvedamuseum at Thaikkattussery. It was a nice experience and the Vaidyaratnam team gave an introduction to the history of Vaidyaratnam and seminars on the relationship between Ayurveda and the Pharmacy field and the scope of Ayurveda in modern science.

In the first week, we had seminars on topics of production management strategies, familiarizing Vaidyaratnam products, nurturing pharma professionals- the role of Ayurveda, and regulatory matters taken by Dr. Sreelal Alathur, Dr. Sreejith, Dr. Sheela Karalam. B, and Dr. Ashi respectively. For the next two weeks, we trained in New Product Development Laboratory (NPD LAB) which was handled by Mrs. Bindu and Ms. Nayana. In NPD LAB we prepared various formulations like Dhanwantharam ointment, borax ointment, moisturizing cream, fairness cream, cold cream, sunscreen cream, chewable tablet, paste, tooth gel, shampoo, hair gel, hand wash, lip balm, lipstick, cough syrup, liniment, sanitizer, mouth wash and also performed evaluation studies of some selected formulations.

In the next phase of training, we went to the Instrumentation lab which was handled by Dr, Ashish, and Mrs. Indu. Here we performed AAS sample preparation and analysis, Flame photometer sample preparation and analysis, UV-visible sample preparation, GC sample preparation and analysis. There is a herbarium in the institute handled by Mrs. Deepthi, in the following week we visited the herbarium and performed practicals on powder microscopy. We trained at their pilot plant and performed a purification of Red Ochre (Iron oxide) experiment and prepared Kashaya and Lehyam using *Adhatoda vasica* leaf extract.

The last session of the training continued with seminars on the topics introduction of Ayurveda drug by Dr. Remya, quality control of Ayur drug by Mrs. Devi, the introduction of alkaloids and phenols by Dr. C.I. Jolly, quality assurance of Ayur drugs by Dr. Leejo, microbiology and Ayurveda by Mrs. Neena, types of machinery in Ayurveda industry by Dr. Jinto, introduction to supply chain management by Mr. Thomas, and marketing management by Mr. Sreejith Unni.

The training ended with our presentation on assignments followed by the distribution of certificates. The assignments were presented by seven groups consisting of three members each. The entire event was really useful. With the support provided by Vaidyaratnam team, our students were able to improve our technical skills and knowledge. The entire team at Vaidyaratnam was really helpful and supportive and they provided us with a friendly atmosphere.



Factory Visit





ST. JAMES' COLLEGE OF PHARMACEUTICAL SCIENCES
(NAAC Accredited)
St. James Medical Academy, Chalakudy-680307

VAIDYARATNAM TRAINING REPORT-3

The management of St. James' College of Pharmaceutical Sciences, Chalakudy organized an 11 days training programme at Vaidyaratnam Ayurvedic Research Institute, Thaikkattussery, Thrissur. Our beloved Principal Dr. K. Krishnakumar provided all the support for the best experience at Vaidyaratnam. 11 students from our college participated in this training programme. Under the leadership of Dr. Sheela and Dr. Aashish, we completed our training at Vaidyaratnam Ayurvedic Research Institute.

Our one training program was conducted from 04-07-2022 to 30-07-2022. The classes were scheduled from 10:00 am – 4:00 pm daily. On the first day, we visited the Ayurveda Museum at Thaikkattussery. It was a nice experience. In the first week, the Vaidyaratnam team gave seminars on the concept of Classical Ayurveda, drugs and dosage forms used, its merits and drawbacks. Later the classes extended to the application of Ayurveda into modern medicine and the pharmaceutical field and also gave an introduction to the origin of Vaidyaratnam and the scope of Ayurveda in modern science. The following days continued with seminars on various topics like phytochemistry, pharmaceutical analysis, drug development, pilot plant set-up, pharmaceutical marketing etc. taken by the staff of Vaidyaratnam.

In the next week, we trained in New Drug Development Laboratory and studied on the formulation of various cosmeceuticals like shampoo, lip balm, cream, lotion, paste, gel, etc., and also performed their evaluation tests. In the NPD Lab, we made a form change of classical Ayurveda drugs into modern dosage forms. Eg: - conversion of Thaila into gel form for the application on foot crack.

In the following days we trained at their pilot plant and performed the preparation of hair oil, and pediatric cough syrup and their evaluation. In the next phase of training, they allowed us to familiarize ourselves with various analytical equipment used in the pharmaceutical field such as Flame photometry, UV, GC-FID, AAS, etc.

There is an herbal authentication lab in the institute, and in the following week, we familiarized ourselves with the steps of herbal authentication, sample collection, sample preparation, powder microscopy and other evaluation tests. There was a large collection of specimens of herbal medicines including dried fruits, seeds, flowers, and leaves stored in airtight jars and some in formalin solution with properly labeled. We also saw two samples of Purana gritham which means cow's ghee stored for long years. One sample was old more than 75 years and another sample was of more than 100 year. There was also a well-prepared herbarium and we studied how to prepare an herbarium specimen. The herbal authentication lab was very informative.

The training ended with our project presentation. It was presented by four groups consisting of three members each. The entire event was really useful. With the support provided by the Vaidyaratnam team, our students were able to improve our technical skills and knowledge. The entire team at Vaidyaratnam was really helpful and supportive and they provided us with a friendly atmosphere.

