



### **3.5.1**

**Number of functional MoUs/linkages with institutions/industries in India and abroad for internship, on-the-job training, project work, student/ faculty exchange and collaborative research during the last five years.**



### **3.5.1**

- 1. Copies of MoUs/ collaboration/ related documents indicating the nature of collaboration and activities year-wise is provided.**



## K. K. WAGH COLLEGE OF PHARMACY

(B. Pharmacy & D. Pharmacy)

Hirabai Haridas Vidyanagari, Amrutdham, Panchavati, Nashik - 422 003. (Maharashtra) India.

☎ : 0253 - 2221121, 2517003, 2510262 Web : www.pharmacy.kkwagh.edu.in

Email: principal-bpharmacy@kkwagh.edu.in, disp-bpharmacy@kkwagh.edu.in

(Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, MSBTE, Mumbai & Approved by PCI)

### 3.5.1 Summary of the functional MoUs/linkage/collaboration indicating start date, end date, nature of collaboration etc.

Sr. No.	Name of Industry/ Hospital/Institute	Start Date	End Date	Nature of collaboration
<b>A.Y. 2022-23</b>				
a	K. K. Wagh Institute of Engineering Education & Research, Nashik	10/08/2022	09/08/2027	Certificate course, Training
b	Shree Yash Hospital	06/07/2022	05/07/2024	Health Check-up Camp
c	Apollo Hospital, Nashik	10/10/2022	10/09/2024	Field Visit
<b>A.Y. 2021-2022</b>				
a	Talent Management Zone	20/04/2022	19/04/2027	Personality development
b	ASG Eye Hospital, Nashik	05/05/2022	04/05/2024	Health check-up
c	The Yellow Monk	01/02/2022	31/01/2024	Health & Finance Awareness
d	Gokhale's Advanced Training Institute, Jalgaon	12/01/2022	11/01/2025	Skill Development
<b>A.Y. 2020-2021</b>				
a	Ingenious Healthcare, Pune	21/01/2021	20/01/2026	Awareness about Career opportunities
b	RAP Analytics, Nashik	08/01/2021	07/01/2026	Training, Projects, Certificate course
c	Board for upskill growth of E-India, Pune	09/07/2020	09/07/2025	Skill Development, Training, Career guidance
<b>A.Y. 2019-2020</b>				
a	Gokhale's Advanced Training Institute, Jalgaon	21/12/2019	20/12/2020	Skill development
b	Institute of Pharmaceuticals Education & Research, Pune	16/12/2019	15/12/2020	Awareness about Career opportunities
c	Mahidhar Wealth Creators, Ahmedabad	09/12/2019	08/12/2020	Finance awareness
d	PharmAlliance, Ahmedabad	09/12/2019	08/12/2020	Career awareness
<b>Research work collaborated with other institute</b>				
<b>A.Y. 2022-23</b>				
a	Northwestern University School of Professional Studies, Chicago, IL, USA	22/08/2022	07/02/2023	Research work







## K. K. WAGH COLLEGE OF PHARMACY

(B. Pharmacy & D. Pharmacy)

Hirabai Haridas Vidyanagari, Amrutdham, Panchavati, Nashik - 422 003. (Maharashtra) India.

☎ : 0253 - 2221121, 2517003, 2510262 Web : [www.pharmacy.kkwagh.edu.in](http://www.pharmacy.kkwagh.edu.in)

Email: [principal-bpharmacy@kkwagh.edu.in](mailto:principal-bpharmacy@kkwagh.edu.in), [disp-bpharmacy@kkwagh.edu.in](mailto:disp-bpharmacy@kkwagh.edu.in)

(Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, MSBTE, Mumbai & Approved by PCI)

b	Dept. Pharm. Chem., Matoshri College of Pharmacy, Nashik, Maharashtra, Dept. Pharm. Chem., SNJBs Shriman Sureshdada Jain College of Pharmacy, Chandwad, Nashik, Maharashtra	15/11/2021	05/2022	Research work
c	Jayawantrao Sawant College of Pharmacy and Research, Hadapsar, Pune- 411028, Maharashtra R.C.Patel Institute of Pharmaceutical Education and Research Shirpur.	11/09/2021	28/03/2022	Research work
<b>A.Y. 2021-2022</b>				
a	Jayawantrao Sawant College of Pharmacy and Research, Hadapsar, Pune- 411028, Maharashtra	14/08/2021	28/02/2022	Research work
b	Cognizant Technology Solution, Pune, Maharashtra, India Dept. of Pharmaceutical Chemistry, K. K. Wagh College of Pharmacy, Nashik, Maharashtra, India Dept. of Pharmacology, S.P. H college of Pharmacy, Malegaon, Maharashtra, India	10/08/2021	17/02/2022	Research work
c	Bhupal Nobles' College of Pharmacy, Udaipur, Rajasthan, India	04/08/2021	15/02/2022	Research work
d	Bhupal Nobles' College of Pharmacy, Udaipur, Rajasthan, India	09/07/2021	26/01/2022	Research work
<b>A.Y. 2020-2021</b>				
a	MGV's Institute of Pharmacy, Malegaon Camp Tal: Malegaon Dist: Nashik, Maharashtra. SVS Institute of Pharmacy, Mungase, Tal: Malegaon Dist: Nashik, Maharashtra.	03/05/2021	03/11/2021	Research work



  
**PRINCIPAL**  
K.K. Wagh College of Pharmacy  
Nashik-422 003



**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**&**

**K. K. Wagh Institute of Engineering Education  
& Research, Pune**

## **Memorandum of Understanding**

**between**

### **K. K. Wagh College of Pharmacy, Nashik and AICTE IDEA Lab, K. K. Wagh Institute of Engineering Education and Research (KKWIEER), Nashik**

This Memorandum of Understanding was signed on the 10<sup>th</sup> day of August 2022 between K. K. Wagh College of Pharmacy, Nashik, and the AICTE-IDEA Lab, K. K. Wagh Institute of Engineering Education and Research (KKWIEER), Nashik India on the mutual consent of common agenda.

This **Memorandum of Understanding (MOU)** concerning K. K. Wagh College of Pharmacy, Nashik, and the AICTE-IDEA Lab, K. K. Wagh Institute of Engineering Education and Research (KKWIEER), wishing to establish relations between the two institutions, agree to co-operate with each other is formalized by the two parties, represented by the signatories of both the parties, who have affixed their signature at the end of this MOU.

Subject to mutual consent, this MOU represents an understanding of the Roles and Responsibilities of both the Parties and provides an understanding by both the parties to work together to meet the common objectives.

Co-operation shall be carried out through below activities such as:

#### **1. K. K. Wagh College of Pharmacy, Nashik, agreed to collaborate/cooperate for below mentioned activities:**

- K. K. Wagh College of Pharmacy shall depute students for the skilling programs to be completed under the AICTE IDEA lab.
- K. K. Wagh College of Pharmacy shall provide faculty members for the FDPs and events conducted under the AICTE-IDEA lab.
- K. K. Wagh College of Pharmacy will utilize AICTE-IDEA lab resources with proper care and responsibility for project purposes. The resources include Lab facilities for the R&D work, material/ resources for product development and use of some licensed software. The applicable charges (if any) for the same will be decided and paid on mutual consent.

#### **2. AICTE-IDEA Lab of KKWIEER agreed to collaborate/cooperate for below mentioned activities:**

- AICTE-IDEA Lab, KKWIEER shall permit to conduct events like Skilling programs, faculty development programs, student visits, etc. under AICTE-IDEA lab
- Upon request from K. K. Wagh College of Pharmacy, AICTE-IDEA Lab, KKWIEER shall provide an available slot for skill development and training to K. K. Wagh College of Pharmacy.
- AICTE IDEA Lab, KKWIEER shall provide the necessary support and permission to use IDEA lab for Project work or research purpose to students as well as faculty/staff of K. K. Wagh College of Pharmacy, Nashik. for the betterment of student and research activities.



Any matter not mentioned in the MoU shall be considered by mutual discussion and consent. Planning of all activities related to the KKWIEER Idea Lab shall be finalized mutually.


Any divergence or difference derived from the interpretation or application or during the execution of agreed activities in the MoU shall be mutually resolved.

**Duration of MOU:**

The MOU shall be valid for a period of five years from the date of signing 10<sup>th</sup> August 2022. After which the parties shall extend the MOU based on the mutual decision. This MOU shall be in force from date of signing MOU.


In witness whereof, both parties above mentioned have set their hands to this MOU on the day and year herein above mentioned.

**On Behalf of**  
**K. K. Wagh College of Pharmacy**

  
Dr. R. D. Amrutkar  
Incharge Principal  
K. K. Wagh College of Pharmacy,  
Nashik



**On Behalf of AICTE-IDEA Lab**  
**KKWIEER**

  
Dr. K. N. Nandurkar  
Principal and Chief Mentor  
K. K. Wagh Institute of  
Engineering Education and Research,  
Nashik



Witness 1: Dr. Anjali P. Bedse, Associate Professor, KKWCOP, Nashik

Witness 2: Dr. Ajinkya Joshi, I/C Registrar, KKWIEER, Nashik

Place: Nashik  
Date: 10.08.2022



**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**&**

**Shree Yash Hospital, Nashik**



K. K. Wagh Education Society's  
**K. K. WAGH COLLEGE OF PHARMACY**  
 (B. Pharmacy and D. Pharmacy)



Hirabai Haridas Vidynagari, Amrutdham, Panchavati, Nashik - 422 003.

(Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, MSBTE, Mumbai & Approved by PCI, New Delhi)

DATE -06/07/2022

**K.K WAGH COLLEGE OF PHARMACY, NASHIK**  
**AND**  
**SHREE YASH HOSPITAL NASHIK**

Memorandum of Understanding (MoU) outlines the basis upon which **K.K WAGH COLLEGE OF PHARMACY, NASHIK** have agreed to get empaneled with **SHREE YASH HOSPITAL NASHIK**.

This Empanelment MoU is intended to describe, the Terms and Conditions of the parties' relationship for the mentioned benefits to the extent that **SHREE YASH HOSPITAL NASHIK** shall be providing world class eye care services and facilities.

**K.K WAGH COLLEGE OF PHARMACY, NASHIK** members and their families will get following benefits.

Employees and their families would be treated in following **THREE** categories in hospital.

**Corporate benefits to Employees and their families (Only for Self-cash paying)**

- 1) Discount on OPD doctor consultations on hospital tariff
- 2) Discounts on OPD Routine Minor investigations on hospital tariff.
- 3) Discount on Surgeries on hospital tariff.

**Additional Corporate Benefits**

- 1) Complimentary Health Awareness Sessions by our Specialist Doctors in a year into association premises.
- 2) Complimentary Basic Checkups in association premises.
- 3) Hospital visit for students.

**MoU - TERMS, CONDITIONS & BENEFITS**

- 1) For availing any services in the hospital or hospitalization, the employee must have to produce his companies Identity Card for the verification purpose to the reception or billing counter.
- 2) For hospitalization of dependents, the members must be accompanying with dependent and should have to produce his own Identity Card & submit the photo copy to the reception or billing counter.



  
**PRINCIPAL**  
 K. K. Wagh College of Pharmacy  
 Nashik-422 003



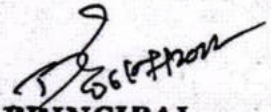
- 3) The discounts offered to **K.K WAGH COLLEGE OF PHARMACY, NASHIK** cannot be clubbed with any other schemes or packages offered by **SHREE YASH HOSPITAL NASHIK**.
- 4) The Above-Mentioned benefits shall not be valid for TPA's, Mediclaim Policy and Insurance.
- 5) MoU is valid for Two year from the day of commencement.

Name - K K Wagh College of Pharmacy    Name - Shree Yash Hospital Nashik  
Mob - 02532510262    Mob - 9420948994  
Mail id - principal-bpharmacy@kkwagh.edu.in

We mutually agree for the following Terms and Benefits. This MoU made on 06/07/2022 (Wednesday).

**K.K WAGH COLLEGE OF PHARMACY, NASHIK**


**SHREE YASH HOSPITAL NASHIK**

  
**PRINCIPAL**  
K.K. Wagh College of Pharmacy  
Nashik-422 003

Organization Official Signatory & Seal

Dated = 06/07/2022.





Organization Official Signatory and Seal

Dated 06/07/2022



  
**PRINCIPAL**  
K.K. Wagh College of Pharmacy  
Nashik-422 003





**Memorandum of Understanding between  
Apollo Hospitals, Nashik & K.K. Wagh Educational Institute, Nashik**

15.09.22

Exclusive Health Privileges for K.K. Wagh Educational Institute, Nashik - members and their dependents (spouse, parents, 2 children) & students of KKWEI

- ✓ **25% Discount on OPD - Consultation** (Full time consultants only), In-house Lab Investigations and Diagnostics.
- ✓ **10% Discount on Apollo Hospitals Standard Health Checks** excluding Apollo Personalised Health Checks.
- ✓ **10% Discount on total IP bill** (excluding medicines, consumables, stents, implants and professional fees). Additional 5% discount for 55 years and above.
- ✓ In case of packages; e.g.: Angiography, Angioplasty, 5% Discount on package. Additional 5% discount for 55 years and above.



**Eligibility:**

- ✓ FOR CASH / CREDIT CARD / DEBIT CARD PAYING PATIENTS ONLY and NOT FOR MEDICAL INSURANCE POLICY COVERAGE.
- ✓ THE DISCOUNT IS APPLICABLE ON CURRENT PREVAILING TARIFF OF THE HOSPITAL.

**Validity:**

- ✓ **Valid Only at Apollo Hospitals, Nashik** & cannot be combined with any other offer of Apollo Hospitals, Nashik or any other Apollo Hospitals Group.
- ✓ On showing K.K. Wagh Educational Institute, Nashik I card Or Valid letter from **K.K. Wagh Educational Institute, Nashik** at the OP or IP billing counter.
- ✓ For 2 years from date of signing the MOU.

**Additionally, Health Awareness Programmes:**

- ✓ Health Talks on matters related to the Heart, Brain, GI System, Emergency, Orthopaedics etc.
- ✓ Basic Health Screening Onsite.
- ✓ Adult Basic Life Support Training.

**Privileges by K.K. Wagh Educational Institute, Nashik to Apollo Hospitals, Nashik**

- ✓ Visibility to Apollo Hospitals through internal communication medium - SMS, email, whats app, mailer, newsletter etc.
- ✓ Visibility to Apollo Hospitals as their 'exclusive Healthcare Partner' at all events, programmes, functions through stall, standee, branding, kiosk at minimal cost, sponsorship.

For Apollo Hospitals, Nashik

For K.K. Wagh Educational Institute, Nashik

Mr. Ajit Jha	Dr. Mangesh Jadhav	Mr. (Prof. K. S. Bandi)
Unit Head - Apollo Hospitals Nashik	GM - Corporate Relations, Apollo Hospitals Nashik	Secretary

Contact Person for Apollo Hospitals Nashik - Mr. Kaivalya Sohani - 9561397111

K.K. Wagh Education Society  
Amrutdham, Panchavati,  
Nashik - 422 003

**APOLLO HOSPITALS ENTERPRISE LIMITED**

**Regd. Office :** Apollo Hospitals Enterprise Limited,  
No. 19, Bishop Gardens, Raja Annamalaipuram,  
Chennai - 600 028.  
CIN : L85110TN1979PLC008035

**Regional Office :** No. 287, Swaminarayan Nagar,  
Off Mumbai-Agra Highway, Panchvati, Nashik - 422 003.  
Phone : 91 - 253 - 2510250 / 350 / 450 / 550 / 750  
Email : apollonashik@apollohospitals.com  
Web.: www.apollohospitals.com



## Institutions run by K.K. Wagh Education Society, Nashik

Engineering College	
1.	K. K. Wagh Institute of Engineering Education & Research, Nashik
Polytechnic	
2.	K. K. Wagh Polytechnic, Nashik
Pharmacy	
3.	K. K. Wagh College of Pharmacy, Nashik
4.	K. K. Wagh Institute of Pharmacy, Chandori, Tal:Niphad, Dist:Nashik
Agriculture & Agricultural Allied Colleges	
5.	K. K. Wagh College of Agricultural Engineering and Technology, Nashik
6.	K. K. Wagh College of Agriculture, Nashik
7.	K. K. Wagh College of Agricultural Bio-technology, Nashik
8.	K. K. Wagh College of Food Technology, Nashik
9.	K. K. Wagh College of Agriculture Business Management, Nashik
10.	K. K. Wagh College of Horticulture, Nashik
Senior Colleges	
11.	K. K. Wagh Arts, Commerce, Science & Computer Science College, Nashik
12.	K. K. Wagh Arts, Commerce, Science & Computer Science College, Chandori, Tal:Niphad, Dist:Nashik
13.	K. K. Wagh Arts, Commerce, Science & Computer Science College, Kakasaheb Nagar, Tal:Niphad, Dist:Nashik
14.	K. K. Wagh Arts, Commerce, Science & Computer Science College, Pimplas (Ramache), Tal:Niphad, Dist:Nashik
B. Ed. / Performing Arts/ Fine Arts	
15.	K. K. Wagh College of Education, Nashik
16.	K. K. Wagh College of Performing Arts, Nashik
17.	K. K. Wagh College of Fine Arts, Nashik
Schools (Marathi Medium)	
18.	K. K. Wagh Vidyabhavan & Junior College, Bhausaheb Nagar, Tal:Niphad, Dist:Nashik (Aided)
19.	Gitai Wagh Kanya Vidyalaya, Bhausaheb Nagar, Tal:Niphad, Dist:Nashik (Aided)
20.	K.K. Wagh Secondary School, Pimplas (Ramache), Tal:Niphad, Dist:Nashik (Aided)
21.	K. K. Wagh Prathamik Vidyabhavan, Pimpri, B'bnagar, Tal:Niphad, Dist:Nashik. (Un-Aided)
Schools + Junior Colleges (English Medium)	
21.	K. K. Wagh Junior College, Chandori, Tal:Niphad, Dist:Nashik
22.	K. K. Wagh Junior College, Kakasaheb Nagar, Tal:Niphad, Dist:Nashik
23.	K.K. Wagh English School (Primary + Secondary & Jr. College), Saraswatinagar, Nashik
24.	K.K. Wagh English School (Primary + Secondary), D.G.P. Nagar, Nashik
25.	K.K. Wagh English School, Gangapur, Nashik
26.	K.K. Wagh English School, Chandori, Tal:Niphad, Dist:Nashik
27.	K.K. Wagh English School, Kakasaheb Nagar, Tal:Niphad, Dist:Nashik
Schools (CBSE)	
28.	K. K. Wagh Universal School, Saraswatinagar, Panchavati, Nashik
29.	K. K. Wagh Universal School, D.G.P. Nagar, Nashik
30.	K. K. Wagh Universal School, Bhausaheb Nagar, Tal:Niphad, Dist:Nashik
Pre-Primary Schools	
1.	K.K.Wagh Mukangan, Saraswatinagar, Nashik
2.	K.K.Wagh Mukangan, DGP Nagar, Nashik
3.	K.K.Wagh Mukangan, Gangapur, Nashik
4.	K.K.Wagh Mukangan, Chandori, Tal:Niphad, Dist:Nashik
5.	K.K.Wagh Mukangan, Kakasaheb Nagar, Tal:Niphad, Dist:Nashik
Hostels	
1.	Gurukul Boys & Girls Hostel, Bhausaheb Nagar, Tal:Niphad, Dist:Nashik
2.	K. K. Wagh Engineering College & Polytechnic Boys & Girl Hostel, Panchavati, Nashik
3.	K. K. Wagh Agriculture and Allied Colleges (Boys & Girls) Hostel, Nashik





**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**&**

**Talent Management Zone, Nashik**



## **Memorandum of Understanding**

**between**

### **K. K. Wagh College of Pharmacy, Nashik and Talent Management Zone, Nashik**

This Memorandum of Understanding was signed on the 20<sup>th</sup> day of April 2022 between K. K. Wagh College of Pharmacy, Nashik, and Talent Management Zone, Nashik India on the mutual consent of common agenda.

This **Memorandum of Understanding (MOU)** concerning K. K. Wagh College of Pharmacy, Nashik, and Talent Management Zone, Nashik, wishing to establish relations between the two institutions, agree to co-operate with each other is formalized by the two parties, represented by the signatories of both the parties, who have affixed their signature at the end of this MOU.

Subject to mutual consent, this MOU represents an understanding of the Roles and Responsibilities of both the Parties and provides an understanding by both the parties to work together to meet the common objectives.

Co-operation shall be carried out through below activities such as:

**1. K. K. Wagh College of Pharmacy, Nashik, agreed to collaborate/cooperate for below mentioned activities:**

- K. K. Wagh College of Pharmacy shall depute students for the skilling programs to be completed under the Talent Management Zone, Nashik.
- K. K. Wagh College of Pharmacy shall provide faculty members for the trainings and events conducted under the Talent Management Zone, Nashik.
- K. K. Wagh College of Pharmacy will utilize the Talent Management Zone, Nashik India resources with proper care and responsibility for skill development purposes. The applicable charges (if any) for the same will be decided and paid on mutual consent.

**2. Talent Management Zone, Nashik agreed to collaborate/cooperate for below mentioned activities:**

- Talent Management Zone, Nashik shall permit to conduct events like Skilling programs, faculty development programs, student visits, etc.
- Upon request from K. K. Wagh College of Pharmacy, Talent Management Zone, Nashik shall provide an available slot for skill development and training to K. K. Wagh College of Pharmacy.
- Talent Management Zone, Nashik shall provide the necessary support to students as well as faculty/staff of K. K. Wagh College of Pharmacy, Nashik for the betterment of student and research activities.

Any matter not mentioned in the MoU shall be considered by mutual discussion and consent. Planning of all activities related to the Talent Management Zone, Nashik shall be finalized mutually.


Any divergence or difference derived from the interpretation or application or during the execution of agreed activities in the MoU shall be mutually resolved.

**Duration of MOU:**

The MOU shall be valid for a period of five years from the date of signing 20<sup>th</sup> April 2022. After which the parties shall extend the MOU based on the mutual decision. This MOU shall be in force from date of signing MOU.


In witness whereof, both parties above mentioned have set their hands to this MOU on the day and year herein above mentioned.

**On Behalf of**  
**K. K. Wagh College of Pharmacy**

  
Dr. R. D. Amrutkar  
I/C Principal  
K. K. Wagh College of Pharmacy, Nashik



**On Behalf of**  
**Talent Management Zone, Nashik**

  
Ms. Laxmi Sharma  
Talent Management Zone, 1st Floor,  
Unity Campus, Old Pandit Colony, Nashik



Place: Nashik  
Date: 20.04.2022



**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**(B. Pharmacy)**

**&**

**ASG Eye Hospital, Nashik**



DATE – 21/04/2022

**K.K WAGH COLLEGE OF PHARMACY, NASHIK  
AND  
ASG EYE HOSPITAL, NASHIK**

Memorandum of Understanding (MoU) outlines the basis upon which **K.K WAGH COLLEGE OF PHARMACY, NASHIK** have agreed to get empaneled with **ASG HOSPITAL PVT LTD, NASHIK**. This Empanelment MoU is intended to describe, the Terms and Conditions of the parties' relationship for the mentioned benefits to the extent that **ASG EYE HOSPITALS, NASHIK** shall be providing world class eye care services and facilities.

**K.K WAGH COLLEGE OF PHARMACY, NASHIK** members and their families will get following benefits.

Employees and their families would be treated in following **THREE** categories in hospital.

**Corporate benefits to Employees and their families (Only for Self-cash paying)**

- 1) **100% Discount on OPD doctor consultations on hospital tariff ( Cataract, Retina, Glaucoma )**
- 2) **10% Discounts on OPD Routine Minor investigations (OPTH.) on hospital tariff.**
- 3) **10% Discount on Eye Surgeries on hospital tariff.**
- 4) **10% Discount on Optical.**

**Additional Corporate Benefits**

- 1) Complimentary Eye Health Awareness Sessions by our Specialist Doctors in a year into association premises.
- 2) Complimentary Basic Eye Checkups in association premises.
- 3) Hospital visit for students.

**MoU – TERMS, CONDITIONS & BENEFITS**

- 1) For availing any services in the hospital or hospitalization, the employee must have to produce his companies Identity Card for the verification purpose to the reception or billing counter.
- 2) For hospitalization of dependents, the members must be accompanying with dependent and should have to produce his own Identity Card & submit the photo copy to the reception or billing counter.



**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003



- 3) The discounts offered to **K.K WAGH COLLEGE OF PHARMACY, NASHIK** cannot be clubbed with any other schemes or packages offered by **ASG EYE HOSPITALS, NASHIK**.
- 4) The Above-Mentioned benefits shall not be valid for TPA's, Mediclaim Policy and Insurance.
- 5) MoU is valid for **Two year** from the day of commencement.

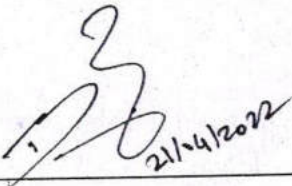
Name -K K Wagh College of Pharmacy  
Mob - 02532510262  
Mail id - principal-bpharmacy@kkwagh.edu.in

Name -ASG Eye Hospital  
Mob -9420948994  
Mail id - mayurwankhede286@gmail.com

We mutually agree for the following Terms and Benefits. This MoU made on 21/04/2022 (Thursday).

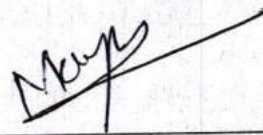
K.K WAGH COLLEGE OF PHARMACY, NASHIK

ASG EYE HOSPITALS, NASHIK



Organization Official Signatory & Seal

Dated 21/04/2022



Organization Official Signatory and Seal

Dated 05-05-2022

Mayur Pramod Wankhede  
9420948994  
ASG EYE HOSPITAL



**PRINCIPAL**  
K.K. Wagh College of Pharmacy  
Nashik-422 003



**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**(B. Pharmacy)**

**&**

**The Yellow Monk**

Yellow Monk Technologies LLP | AAY - 1244  
 Kishor Suryawanshi Marg, MERI, Nashik - 422004  
 hello@theyellowmonk.com | support@100ascent.com  
 +918668462386 | +917558441187



# THE YELLOW MONK

Ref No.: 002

Date: 1/2/22

## Memorandum of Understanding (MoU) between Yellow Monk Technologies LLP AND

K.K. Wagh College of Pharmacy, Nashik

This Memorandum of Understanding (MoU), is made by and amongst Yellow Monk Technologies hereinafter referred to as "Company" having its registered office at Office 03, Kalpataru, Kishor Suryawanshi Marg, MERI, Nashik 422004 and K.K. Wagh College of Pharmacy, Nashik - 422003 hereinafter referred to as "Institute".

### 1. Introduction

- Organization/Company Profile –

Yellow Monk Technologies is a software development company located in Nashik and Pune working in the domain of fitness and technology under the banner of 100Ascent.

### 2. Objectives of Cooperation

The main objective of this MoU is to develop an ecosystem of fitness within the college by providing a platform to promote fitness and health education and consultancy among the students and staff of the Institute by establishing a fitness club by the name of **Ascender Fitness Club**. The company will operate by the name of **100Ascent** within the institute.

The primary goals of Ascender Fitness club are –

- 2.1 To promote fitness among students and staff in college
- 2.2 To organize fitness and health events and meetups
- 2.3 To organize fitness competitions and challenges
- 2.4 To connect with other ambassadors, share resources and get to know about fellow experts and fitness enthusiasts around the globe.
- 2.5 To promote leadership and management qualities among students.
- 2.6 To promote top college athletes on a global platform.
- 2.7 To create a community of fitness enthusiasts and conscious individuals and encourage them.
- 2.8 To help students learn skills other than colleges and help them thrive in the real world.
- 2.9 Rewarding the top performers with goodies and swag packs upon assessment.
- 2.10 Provide a platform for the students to learn new skills like marketing, leadership, soft skills and receive mentorship and training for the same.
- 2.11 Opportunities to intern with the company and build a skillset to thrive in the real world.



*[Signature]*

PRINCIPAL

K.K. Wagh College of Pharmacy  
 Nashik-422 003



Yellow Monk Technologies LLP | AAY - 1244  
 Shor Suryawanshi Marg, MERI, Nashik - 422004  
[info@theyellowmonk.com](mailto:info@theyellowmonk.com) | [support@100ascent.com](mailto:support@100ascent.com)  
 018668462386 | +917558441187



# THE YELLOW MONK

## Coordination

Both parties Yellow Monk Technologies LLP and Institute shall take all reasonable steps to cooperate and ensure successful implementation of all the measures mentioned in this MoU.

## Areas for Cooperation

### 1.1 Participation in sessions and events.

Yellow Monk Technologies will select and conduct Fitness and Health-related sessions and talks on various topics as shall be jointly decided by the Institute and Company. Talk and sessions shall be conducted by the organizing team of the Ascender fitness club. These talks will be oriented toward creating awareness and sharing knowledge for the Institute students and staff members.

### 1.2 Promotion and conducting fitness activities within Institute

Yellow Monk Technologies shall help the organizing team conduct physical fitness events and activities within the college to promote fitness during the year. The Institute shall help in guiding the students and staff for the activities.

### 1.3 Recruitment and Training for students

Yellow Monk Technologies will recruit an organizing team for the Institute. The organizing team consisting of students would be responsible for conducting the mentioned events and activities within the college. The company will conduct training programs, workshops either by the company itself or by the experts as and when necessary to help the students enhance their technical and soft skills. Institute shall coordinate the Training/Workshop activities at the premises using their infrastructure. The company shall recruit potential and competent students as interns or full-time employees depending on their annual needs and growth plan.

### 1.4 Deployment of Ascender Fitness club and related activities

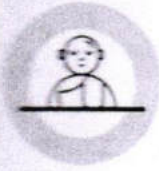
Yellow Monk Technologies will deploy and promote the "100Ascent" application within the institute to conduct various fitness competitions and activities on the platform. The organizing team will be responsible for conducting the activities. The company will guide and mentor the team on regular basis. Monthly reports of the activities will be submitted to the company to ensure the smooth working of the fitness clubs within the Institute. Intercollege and Intra college competitions will be conducted on the 100Ascent application and the company will handle the execution of all the activities. The Institute shall provide the help required of the execution and ensure the participation by the students and staff members within the institute.



**PRINCIPAL**

**K.K. Wagh College of Pharmacy**  
**Nashik-422 003**

Yellow Monk Technologies LLP | AAY - 1244  
Kishor Suryawanshi Marg, MERI, Nashik - 422004  
hello@theyellowmonk.com | support@100ascent.com  
+918668462386 | +917558441187



# THE YELLOW MONK

## 5. Confidentiality

Either party guarantees and acknowledges that all information whether in writing or oral or otherwise obtained from other parties under this MOU would be kept strictly confidential during the MOU or after cessation, either party shall not divulge or disclose to any third person/organization. The provision of this clause shall survive the termination of this MOU.

## 6. Miscellaneous

6.1 This MOU shall be valid for a period of 2 years from 15 Feb 2022 to 15 Feb 2024 and will be signed by Institute & Yellow Monk Technologies

This MOU shall be renewed for a further term with the mutual consent of the two parties. Either party may terminate this MOU by giving 30 days prior written notice to the other.

6.2 Neither party hereunder shall be liable for any consequential loss or damages arising out of the performance of obligations under the terms of this MoU.

Agreed to:

For Yellow Monk Technologies

By: Param Thade

(Sign) Param

Designation  
Partner, Co-founder

Date: February 1<sup>st</sup>, 2022

For K.K. Wagh College of Pharmacy

By: Dr. B.D. Amrutkar

(Sign) [Signature]

Designation  
Incharge Principal

Date: February 1<sup>st</sup>, 2022



[Signature]  
PRINCIPAL  
K.K. Wagh College of Pharmacy  
Nashik-422 003



**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**(B. Pharmacy)**

**&**

**Gokhale Advanced Training Institute,**

**Jalgaon**

## Memorandum of Understanding

This Memorandum of Understanding ("MoU") is signed on the 12<sup>th</sup> January Wednesday of 2022

BY AND BETWEEN:

### K. K. WAGH COLLEGE OF PHARMACY, NASHIK

(An institute which runs B. Pharmacy course in Nashik, which is affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere)

AND

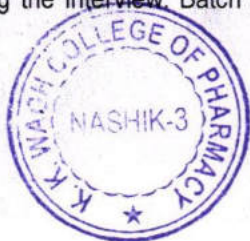
### GOKHALE'S ADVANCED TRAINING INSTITUTE, JALGAON

(A training service provider in the field of Employability Skills, Soft skills, Business English Communication, Entrepreneurship Development and Stress management; hereinafter referred to as "GATI")

This Memorandum of Understanding is proposed in order to bridge the gap between the academia and industries. The MoU aims at skills development by providing various trainings to the students and faculty members of **K. K. Wagh College of Pharmacy, Nashik**

Through this Memorandum of Understanding, the two parties agree to the following:

- (a) A **steering committee** will be set up to monitor the activities of the MoU. The committee will consist of **Devdatta C. Gokhale (Director, GATI, Jalgaon)** and **Dr. R. D. Amrutkar (I/C Principal, K. K. Wagh College of Pharmacy, Nashik)**
- (b) With mutual consent, the steering committee can be expanded to include more members from the two institutions. The steering committee will be the supreme body as far the implementation of the activities of the MoU, the continuation of the MoU, and termination of the MoU are concerned.
- (c) **K. K. Wagh College of Pharmacy, Nashik and GATI** will jointly conduct short-term training programs and workshops in following areas:
  - i. **Employability Enhancement and Assessment trainings**
  - ii. **Business English Communication**
  - iii. **Stress Management**
  - iv. **Soft skills, Personality Development, and Forts Culture Worokshops**
  - v. **Entrepreneurship Motivation & Development**
  - vi. **Any other training areas, as may be deemed fit for both the parties.**
- (a) **K. K. Wagh College of Pharmacy, Nashik** will organize training programs for its students and faculties, on the above-mentioned areas [b(i) to b(vi)] and **GATI** will conduct / co-ordinate these trainings.
- (b) **K. K. Wagh College of Pharmacy, Nashik and GATI** will jointly conduct the **Employability Assessment** activity for students. The objective of this activity is to analyse the behavioral skills of the students w.r.t. communication, presentation, body language, confidence and overall impact, the students are able to create during the interview. Batch size, payment terms, assessment parameters and all other relevant



  
**PRINCIPAL**  
**K. K. Wagh College of Pharmacy**  
**Nashik-422 003**



details will be as per the proposal of GATI submitted with K. K. Wagh College of Pharmacy, Nashik from time to time.

- (c) **K. K. Wagh College of Pharmacy, Nashik** will provide all necessary infrastructure such as training hall, projector, PA system, computer lab, etc as will be required for training workshops and assessment from time to time.
- (d) **GATI** will provide all necessary training material as applicable, which will be mentioned in the training and assessment proposals submitted with **K. K. Wagh College of Pharmacy, Nashik** from time to time.
- (e) Batch size, payment terms, award of certification and all other relevant details will be as per the training proposals of **GATI** submitted with **K. K. Wagh College of Pharmacy, Nashik** from time to time.
- (f) Course dates and timings will be decided on the mutual convenience of both the parties.
- (g) **Expert lectures / Workshops / Events:** If **K. K. Wagh College of Pharmacy, Nashik** wishes to organize lecture series / national events, **GATI** will assist in providing speakers.
- (h) **Industrial Visits:** **GATI** will assist **K. K. Wagh College of Pharmacy, Nashik** in arranging industrial visits of its final year students.
- (i) **Validity:** This MoU is valid for a term of three year(s) from the date of signing, unless terminated earlier or extended by mutual agreement of both the parties at latest thirty days prior to the expiry.
- (j) **Miscellaneous:**
- All conditions, changes, erasures, amendments, waivers, etc. shall only be in writing, duly executed by both the parties.
  - This MoU and any amendment thereof are limited to the purpose of MoU only.
  - This MoU sets forth the entire agreement and understanding between the parties with respect to the subject matter hereof and merges all discussions and negotiations between them, prior to such execution.
  - This MoU shall be governed by the laws of Republic of India.

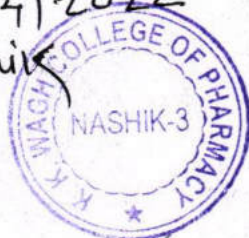
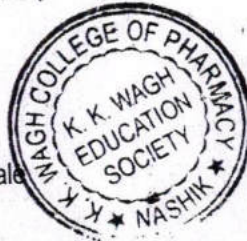
IN WITNESS WHEREOF the parties have executed this Memorandum of Understanding (MoU) on the date and the year first hereinabove written.

For and on behalf of  
Gokhale's Advanced Training Institute (GATI)  
Jalgaon

Name: Devdatta Charudatta Gokhale  
Designation: Director, GATI

Date: 08/04/2022

Place: Nashik



For and on behalf of  
K. K. Wagh College of Pharmacy, Nashik

**PRINCIPAL**

K. K. Wagh College of Pharmacy  
Nashik-422 003.

Name: Dr. R. D. Amrutkar  
Designation: Incharge Principal

**PRINCIPAL**

K. K. Wagh College of Pharmacy  
Nashik-422 003

**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**(B. Pharmacy)**

**&**

**Ingenious Healthcare,**

**Hadapsar, Pune, Maharashtra**



This agreement is executed on this date **21/01/2021** between **Ingenious Healthcare, Hadapsar, Pune** (Henceforth mentioned as company) and **K. K. Wagh College of Pharmacy, Nashik** (Henceforth mentioned as Institute).

This agreement is made by and between **Ingenious Healthcare, Hadapsar, Pune** and

## **K. K. Wagh College of Pharmacy, Nashik**

### **Recitals**

- Whereas, Ingenious Healthcare Hadapsar, Pune is a Site management organization and clinical research institute, engaged in manufacturing of quality pharmaceuticals for the benefit of the society.
- Whereas K. K. Wagh College of Pharmacy, Nashik, is a premier pharmacy Institute conducting degree course in Pharmacy.

### **Scope of MOU:**

- To improve knowledge & skill base of students by exposing them with practical aspects of their professional career.
- To utilize technical manpower & thereby improve the quality of education-knowledge & skills in the students.

### **Aims and objectives of MoU:**

- Opportunity for students & faculty to undergo industrial training.
- Opportunity for students & faculty to undergo industrial projects.
- Opportunity for students & faculty to visit industry & observe quality in services.
- To avail human resources as guest lecturers from the industry.
- Opportunity for training & placement of student in industry.
- Both the company & the institution shall evolve a mutually acceptable schedule to develop programs, hold seminars and exchange visits.



  
2/4  
**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003

- Collaborations in the sharing of academic data, scientific information, intellectual property, articles and publications.

**Liability:**

- No party is liable for any claim of personal loss arising out of any such activity/accident during the course of execution of the work covered under this MOU.
- The parties to this MOU undertake to treat as CONFIDENTIAL AND PRIVILEGED information of each other/ Company & institution, which is so classified in advance. The terms of confidentiality and mode of disclosure shall be as per mutually acceptable terms.

**Termination:**

Company and Institute can terminate this agreement under the following circumstances:

- Both the parties do not adhere to responsibilities of mutual participation.
- Both the parties contravene any of the provision of this agreement.
- Both the parties can terminate the agreement after giving a prior notice.

**Duration of MOU:**

The duration of MOU shall be for a period of five years from the date of signing 21/01/2027.

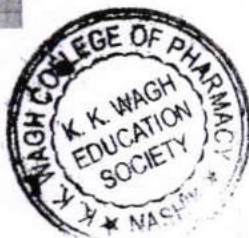
**Seal of the parties:**

In witness were of the parties here to sign this agreement on the day, month & year mentioned here in before.



Director  
Ingenious Healthcare

Place: Nashik  
Date: 21/01/2022



Principal

K. K. Wagh College of Pharmacy, Nashik

**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003.



**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003



**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**&**

**RAP Analytical Research & Training Center,**

**Nashik**

# Memorandum of Understanding

AY 2020-21

between

## **K. K. Wagh College of Pharmacy, Nashik and RAP Analytical Research & Training Center, Nashik**

This Memorandum of Understanding was signed on the 04<sup>th</sup> day of February 2021 between K. K. Wagh College of Pharmacy, Nashik, and RAP Analytical Research & Training Center, Nashik India on the mutual consent of common agenda.

This **Memorandum of Understanding (MOU)** concerning K. K. Wagh College of Pharmacy, Nashik, and the RAP Analytical Research & Training Center, Nashik India) wishing to establish relations between the two institutions, agree to co-operate with each other is formalized by the two parties, represented by the signatories of both the parties, who have affixed their signature at the end of this MOU.

Subject to mutual consent, this MOU represents an understanding of the Roles and Responsibilities of both the Parties and provides an understanding by both the parties to work together to meet the common objectives.

Co-operation shall be carried out through below activities such as:

### **1. K. K. Wagh College of Pharmacy, Nashik, agreed to collaborate/cooperate for below mentioned activities:**

- K. K. Wagh College of Pharmacy shall depute students for the skilling programs to be completed under the RAP Analytical Research & Training Center, Nashik India.
- K. K. Wagh College of Pharmacy shall provide faculty members for the trainings and events conducted under the RAP Analytical Research & Training Center, Nashik India.
- K. K. Wagh College of Pharmacy will utilize the RAP Analytical Research & Training Center, Nashik India resources with proper care and responsibility for project purposes. The resources include Lab facilities for the R&D work, material/ resources for product development. The applicable charges (if any) for the same will be decided and paid on mutual consent.

### **2. RAP Analytical Research & Training Center, Nashik India agreed to collaborate/cooperate for below mentioned activities:**

- RAP Analytical Research & Training Center, Nashik India shall permit to conduct events like Skilling programs, faculty development programs, student visits, etc.

- Upon request from K. K. Wagh College of Pharmacy, RAP Analytical Research & Training Center, shall provide an available slot for skill development and training to K. K. Wagh College of Pharmacy.

- RAP Analytical Research & Training Center, Nashik shall provide the necessary support and permission to use RAP Analytical Research & Training Center for Project work or research purpose to students as well as faculty/staff of K. K. Wagh College of Pharmacy, Nashik for the betterment of student and research activities.



  
**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003



Any matter not mentioned in the MoU shall be considered by mutual discussion and consent.

Any divergence or difference derived from the interpretation or application or during the execution of agreed activities in the MoU shall be mutually resolved.


**Duration of MOU:**

The MOU shall be valid for a period of Five years from the date of signing 04<sup>th</sup> February 2021. After which the parties shall extend the MOU based on the mutual decision. This MOU shall be in force from date of signing MOU.

In witness whereof, both parties above mentioned have set their hands to this MOU on the day and year herein above mentioned.

**On Behalf of**

**K. K. Wagh College of Pharmacy**


  
04/02/2021

Dr. Rakesh D. Amrutkar  
Associate Professor  
K. K. Wagh College of Pharmacy,  
Nashik



**On Behalf of**

**RAP Analytical Research & Training Center**

  
4/2/21

Mr. Rohan Pawar  
RAP Analytical Research & Training Center  
Nashik



Place: Nashik  
Date: 04.02.2021

  
**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003

**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**&**

**Board for Upskill Growth of E-India, Pune**



## Memorandum of Understanding

between

**K. K. Wagh College of Pharmacy, Nashik**  
**and**  
**Board for Upskill Growth of E-India, Pune**

This Memorandum of Understanding was signed on the 09th day of July 2020 between K. K. Wagh College of Pharmacy, Nashik, and Board for Upskill Growth of E-India, Pune, India on the mutual consent of common agenda.

This **Memorandum of Understanding (MOU)** concerning K. K. Wagh College of Pharmacy, Nashik, and Board for Upskill Growth of E-India, Pune, wishing to establish relations between the two institutions, agree to co-operate with each other is formalized by the two parties, represented by the signatories of both the parties, who have affixed their signature at the end of this MOU.

Subject to mutual consent, this MOU represents an understanding of the Roles and Responsibilities of both the Parties and provides an understanding by both the parties to work together to meet the common objectives.

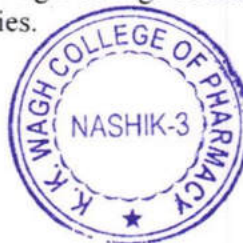
Co-operation shall be carried out through below activities such as:

**1. K. K. Wagh College of Pharmacy, Nashik, agreed to collaborate/cooperate for below mentioned activities:**

- K. K. Wagh College of Pharmacy shall depute students for the skilling programs to be completed under the Board for Upskill Growth of E-India, Pune.
- K. K. Wagh College of Pharmacy shall provide faculty members for the trainings and events conducted under the Board for Upskill Growth of E-India, Pune.
- K. K. Wagh College of Pharmacy will utilize the Board for Upskill Growth of E-India, Pune, resources with proper care and responsibility for skill development purposes. The applicable charges (if any) for the same will be decided and paid on mutual consent.

**2. Board for Upskill Growth of E-India, Pune agreed to collaborate/cooperate for below mentioned activities:**

- Board for Upskill Growth of E-India, Pune shall permit to conduct events like Skilling programs, faculty development programs etc.
- Upon request from K. K. Wagh College of Pharmacy, Board for Upskill Growth of E-India, Pune shall provide an available slot for skill development and training to K. K. Wagh College of Pharmacy.
- Board for Upskill Growth of E-India, Pune shall provide the necessary support to students as well as faculty/staff of K. K. Wagh College of Pharmacy, Nashik for the betterment of student and research activities.



**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003

Any matter not mentioned in the MoU shall be considered by mutual discussion and consent. Planning of all activities related to the Board for Upskill Growth of E-India, Pune shall be finalized mutually.

Any divergence or difference derived from the interpretation or application or during the execution of agreed activities in the MoU shall be mutually resolved.

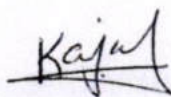
**Duration of MOU:**

The MOU shall be valid for a period of five years from the date of signing 09<sup>th</sup> July 2020. After which the parties shall extend the MOU based on the mutual decision. This MOU shall be in force from date of signing MOU.

In witness whereof, both parties above mentioned have set their hands to this MOU on the day and year herein above mentioned.

**On Behalf of**

**K. K. Wagh College of Pharmacy**

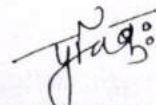


Ms. K. P. Baviskar  
Assistant Professor

K. K. Wagh College of Pharmacy, Nashik

**On Behalf of**

**Board for Upskill Growth of E-India,  
Pune**



Prof. Pravin V. Buge  
Founder & Director

Board for Upskill Growth of E-India, Pune



Place: Nashik  
Date: 09.07.2020




**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003





**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**(B. Pharmacy)**

**&**

**Gokhale Advanced Training Institute,**

**Jalgaon**

**Memorandum of Understanding between  
Gokhale's Advanced Training Institute, Jalgaon  
and  
K.K.Wagh College of Pharmacy-Nashik**

This Memorandum of Understanding (MOU) is made on Saturday 21<sup>st</sup> December 2019 between Gokhale's Advanced Training Institute having its office at Jalgaon. Henceforth, called as "GATI" and K. K. Wagh College of Pharmacy, Nashik having its office at Hirabai Haridas Vidyanagari, Panchavati-Nashik. Henceforth called as "KKWCOP".

**1. Introduction about Training Institute and KKWCOP**

**About GATI-** Gokhale's Advanced Training Institute (GATI) has successfully completed seven years. The institute offers several training programmes to students, faculty, corporate, etc. The head office is located at Jalgaon (Maharashtra). The institute's focus is on capacity building of individuals through behavioral and technical skills development.

Till date, GATI has been successful in training more than 21,000 individuals. The training programmes are activity-based offering hands-on experiences and readymade platforms to develop skills. The core training areas include Industrial Automation, Stress Management, Business English, Communication Skills, Attitude, Behavioral and Management Development. The trainers are certified in Soft Skills and Business English Communication from Symbiosis International University through its department English Language Teaching Institute of Symbiosis (ELTIS), Pune.

**About KKWCOP** -It was established at K. K. Wagh Engineering campus, Nashik from the academic year 2017-18 and is managed by K. K. Wagh Education Society, Nashik, a leading name in the field of education. It has well furnished class rooms, seminar hall, spacious laboratories with modern equipment as well as computational facilities and state of the art campus and amenities.

The College is affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad Maharashtra, and approved by All India Council for Technical Education, New Delhi; Pharmaceutical Council of India, New Delhi and State Government of Maharashtra.

Whereas both the parties have decided to enter into a strategic alliance on terms mutually beneficial to them.

**2. Objectives of Cooperation**

The main objective of this MOU is to provide a platform to build a strong and on-going relationship between **GATI** and **KKWCOP**, Nashik.

**3. Areas for Cooperation**

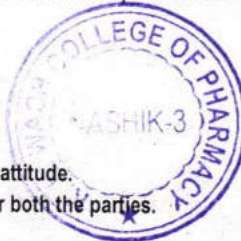
3.1 GATI may participate in Soft skill Development, Personality Development, Confidence Building of the students of KKWCOP by providing short-term training programs & workshops for its students and faculties.

GATI will conduct short-term training programs & workshops in following areas:

- i. Employability Enhancement and Assessment.
- ii. Soft skills & Personality Development.
- iii. Entrepreneurship Motivation.
- iv. Confidence Building, examination skills, positive attitude.
- v. Any other training areas, as may be deemed fit for both the parties.

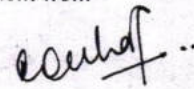
**3.2 K.K Wagh College of Pharmacy will extend :**

- i) KKWCOP will provide all necessary infrastructures such as training hall, projector, PA system, computer lab, etc as will be required for training workshops and assessment from time to time.



  
**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003







- ii) KKWCO may promote activities of Gokhale's Advanced Training Institute, Jalgaon at its own cost and expenses by advertisements in newspapers, journals, magazines, Internet or by any other means.
- iii) KKWCO and GATI will jointly conduct the Employability Assessment activity for students. The objective of this activity is to analyze the behavioral skills of the students with respect to communication, presentation, body language, confidence and overall impact; the students are able to create during the interview.

**4. Commercial aspects:** The commercial aspects for the implementation of above mutual facilities / coordination / trainings, etc will be decided as and when need arise and will be finalized accordingly. Cost or profit (if any) can be decided mutually and will be shared on a mutually agreed basis.

**5. Confidentiality:** Either party guarantees and acknowledges that all information whether in writing or oral or otherwise obtained from other party under this MoU would be kept strictly confidential during the MoU or after cessation, either party shall not divulge, disclose or impart to any third person/organization. The provision of this clause shall survive the termination of this MoU.

**6. Validity of MoU:** This MoU shall be valid for a period of 12 months from the date of signing by KKWCO & GATI. This MoU shall be renewed for further term with mutual consent. Either party may terminate this MoU by giving 30 days prior written notice to the other. Neither party hereunder shall be liable for any consequential loss or damages arising out of the performance of obligations under the terms of this MoU.

Agreed to:

For KKWCO, Nashik

(Dr. Kishor S. Jain)

PRINCIPAL

K. K. Wagh College of Pharmacy

Nashik-422 003.

Date:- 21/12/2019

Place:- Nashik



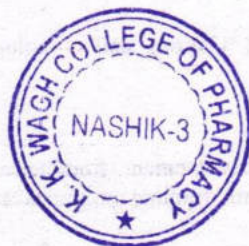
For: GATI, Jalgaon

(Devdatta C. Gokhale)



Date:- 21/12/2019

Place:- Nashik



**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003

**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

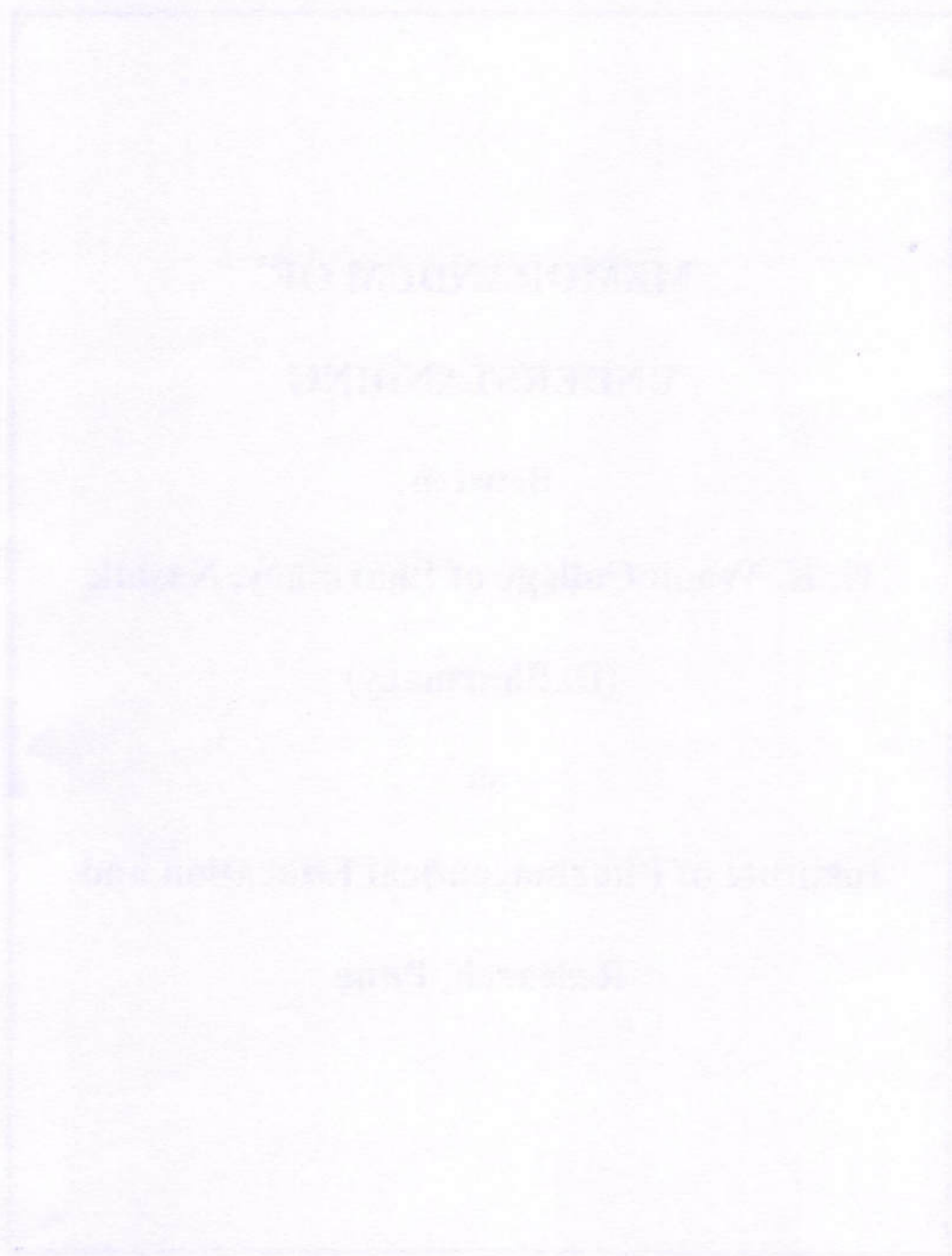
**(B. Pharmacy)**

**&**

**Institute of Pharmaceutical Education and**

**Research, Pune**





1942

**Memorandum of Understanding between  
Institute of Pharmaceutical Education and Research, Pune  
and  
K. K. Wagh College of Pharmacy, Nashik**

This Memorandum of Understanding (MoU), is made on Monday, 16<sup>th</sup> December 2019 between Institute of Pharmaceutical Education and Research (Pune) Pvt Ltd, (Registered Pvt. Ltd. Company) and having its administrative office at 15, Ideal Chambers, Paud Road, Pune 411038. Henceforth, called as "IPER" and K. K. Wagh College of Pharmacy having its office at Hirabai Haridas Vidyanagari, Panchavati- Nashik 422003. Henceforth called as "KKWCOP".

### 1. Introduction about IPER and KKWCOP

**About – IPER:** It is a reputed company in its respective professional field of Pharma training and runs Professional Pharma Management Diplomas and One day certificate programmes.

**About – KKWCOP:** It was established at K. K. Wagh Engineering campus, Nashik from the academic year 2017-18 and managed by K.K.Wagh Education Society, Nashik, a leading name in the field of education. It has well furnished class rooms, seminar hall, spacious laboratories with modern equipment as well as computational facilities and state of the art campus and amenities. The College is affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad Maharashtra, and approved by All India Council for Technical Education, New Delhi, Pharmaceutical Council of India, New Delhi and State Government of Maharashtra.

Whereas, both the above parties have decided to enter into a strategic alliance on terms mutually beneficial to them.

### 2. Objectives of Cooperation

The main objective of this MoU is to provide a platform for a strong and on-going relationship between IPER and KKWCOP.

KKWCOP, Nashik has joined hands with the IPER for enhancing its Industry relevance and exposure to Pharma Industry Practices through various Pharma Management Programmes and One Day Certificate Programmes to be conducted by IPER for the pharmacy students of KKWCOP.

### 3. Areas for Cooperation

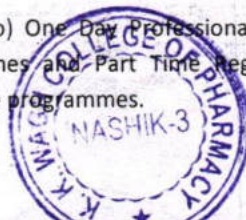
#### 3.1. Programme/ workshop

Minimum 30 students of KKWCOP should register for IPERs any Pharma Management Diplomas and around 4 (four) one day certificate programmes could be conducted by KKWCOP in a year.

For Correspondence Registration IPER shall conduct 2(two) One Day Professional certificate Programmes. While, for Online Registration, 4 programmes and Part Time Registration, 6 programmes shall be conducted to cover the content of the programmes.

#### 3.2 Fee structure

The charges for programmes by IPER shall be per student and as mutually agreed and negotiated by IPER and KKWCOP.



**PRINCIPAL**

**K. K. Wagh College of Pharmacy  
Nashik-422 003**



KKWCOP will receive 10 % of IPER fees charged to students for Pharma Management Diplomas after students enroll for the programme. Co-ordinator of K. K. Wagh College of Pharmacy, Nashik will get suitable honorarium from IPER as is decided mutually by both the parties.

### 3.3. Sharing of facilities

KKWCOP and IPER hereby agree to use each other's Business Collaterals like Logos, photos, website, URL, etc in their individual Business Collaterals after mutual consent.

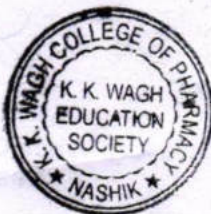
### 3.4. KKWCOP will extend following;

- KKWCOP may advertise the IPER at its own cost and expenses by advertisements in newspapers, journals, magazines, Internet or by any other means.
  - KKWCOP agrees to conduct One Day Programmes of IPER and for that inspire its students to enroll for IPERs Pharma Management Diplomas.
4. **Commercial aspects:** The commercial aspects for the implementation of above mutual facilities/coordination/trainings etc will be decided as and when need arise and will be finalized accordingly.
  5. **Confidentiality:** Either party guarantees and acknowledges that all information whether in writing or oral or otherwise obtained from other party under this MoU would be kept strictly confidential during the MoU or after cessation, either party shall not divulge, disclose or impart to any third person/organization. The provision of this clause shall survive the termination of this MoU.
  6. **Validity of MoU:** This MoU shall be valid for a period of 12 months from the date of signing by KKWCOP & IPER. This MoU shall be renewed for further term with mutual consent. Either party may terminate this MoU by giving 30 days prior written notice to the other. Neither party hereunder shall be liable for any consequential loss or damages arising out of the performance of obligations under the terms of this MoU.

Agreed to:

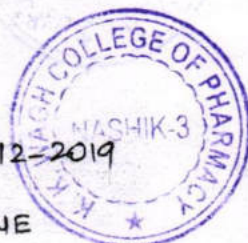
For KKWCOP, Nashik

For: For IPER, Pune.



Name: (Dr. Kishor S. Jain)

**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003.  
Stamp and seal



Date: 17-12-2019

Place PUNE

(Dr Mahesh D. Burande)

Stamp and seal



**PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003

**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**(B. Pharmacy)**

**&**

**Mahidhar Wealth Creators,**

**Ahmedabad**



**Memorandum of Understanding between  
Mahidhar Wealth Creators Ahmedabad**

**&**

**K. K. Wagh College of Pharmacy, Nashik**

This Memorandum of Understanding (MoU), is made on Monday, 9<sup>th</sup> December-2019 **Mahidhar Wealth Creators Ahmedabad** having its Administrative office at, 301 AnandMangal-II, B/h Omkar house, Nr Swastik Cross Road, C.G. Road, Ahmedabad, Gujarat- 380009 and K.K.Wagh College of Pharmacy (KKWCOP) having its office at HirabaiHaridasVidyanagari, Panchavati-Nashik, Maharashtra, and here after to be referred as KKWCOP.

**Introduction about Mahidhar Wealth Creators and KKWCOP**

**About** - Established in 2007 by name Mahidhar Investment Advisors Private Ltd, now known as Mahidhar Wealth Creators with an objective of providing Comprehensive Financial Planning, and Wealth Management Services, providing indepth knowledge on insurance to Investors as well as Clients to achieve their desired Financial Goals. Specialist independent investment & Insurance Advisors for "Building and Protecting Wealth& covering life" through proper guidance and service.

**About** - The KKWCOP was established at K. K. Wagh Engineering campus from academic year 2017-18. It has well-furnished spacious laboratories with modern equipment and highly experienced and qualified teaching faculty.

KKWCOP is affiliated to Dr. BabasahebAmbedkar Technological University, Lonere, Raigad, Maharashtra, and approved by All India Council for Technical Education, New Delhi, Pharmaceutical Council of India, New Delhi and State Government of Maharashtra.

Whereas the parties have decided to enter into a strategic alliance on terms mutually beneficial to them.

**Objectives of Cooperation**

The main objective of this MoU is to provide a platform for a strong and on-going Industry Institute relationship between Mahidhar Wealth Creators and KKWCOP.

KKWCOP has joined hands with the Mahidhar Wealth Creators for onsite training to their students and staff in insurance and financial matters which are equally important in their career. In return KKWCOP can offer onsite facilities to conduct training, workshop, and clients for insurance and financial services to Mahidhar Wealth Creators.

**1. Areas for Cooperation**

**Part of academic curriculum planning**

Participation of experts from Mahidhar Wealth Creators, Insurance and financial need based curriculum development, which can be add on subject area of skill development.



**PRINCIPAL**

K K Wagh College of Pharmacy  
Nashik-422 003



### Participation in knowledge sharing at KKW COP

Organizing guest lectures, Workshops, conferences, seminars and symposia with joint participation of the faculty and the industrial experts for the upliftment of pharmacy professionals.

### Projects/ Training for Staff/ Students

The KKW COP agrees to arrange student and faculty visits at Mahidhar Wealth Creators to make the students aware of the importance of insurance, finance and wealth management training / internship, as well as, to provide them the exposure to various policies, financial investments etc. and to enroll for training program and projects. Training for suitable number of participants will be conducted. Training programs could be conducted by Mahidhar Wealth Creators for four weeks (150 hours) in a year.

No charges are taken by Mahidhar Wealth Creators for training programme, nor have they to pay any stipend for the interns, but except honorarium and TA/DA.

Mahidhar Wealth Creators may arrange training programmes / Short term assignments to the faculty members of KKW COP at Nashik.

### Placement and Internship to students

KKW COP will also invite Mahidhar Wealth Creators for campus recruitment & provide the manpower & will also offer the opportunity to hire the students of KKW COP, who wish to make career in insurance and finance field if Mahidhar Wealth Creators find them suitable. Mahidhar Wealth Creators, may showcase its business activities at the seminar/workshop/conference, etc. at KKW COP.

### Sharing of facilities

The KKW COP and the Mahidhar Wealth Creators hereby agree to use each other's Business Collaterals like Logos, photos, website, URL, etc in their individual Business Collaterals after mutual consent.

Mahidhar Wealth Creators shall make provisions to share their respective facilities available with them if needed, in order to promote academic and research interaction in the areas of financial planning and insurance.

### KKW COP will extend

- The KKW COP may advertise its collaboration with Mahidhar Wealth Creators at its own cost and expenses by advertisements in newspapers, journals, magazines, Internet or by any other means.
- The KKW COP may provide to Mahidhar Wealth Creators promotional data/ literature for its product management.
- Mahidhar Wealth Creators may avail library, Internet, computational facilities at KKW COP.



  
**PRINCIPAL**  
 K.K. Wagh College of Pharmacy  
 Nashik-422 003



- Mahidhar Wealth Creators may request to design and teach a technical Course or Courses in the field of Pharmaceuticals which it deems fit to enhance quality and performance of its employees. Such Courses maybe run at any mutually convenient premises.
  - Playground for conducting sports activities for Mahidhar Wealth Creators Employees at minimal rate.
  - Class rooms and seminar halls will be provided for conducting organizational and recruitment activities at minimal rate.
2. **Commercial aspects:** The commercial aspects for the implementation of above mutual facilities/coordination/trainings etc will be decided as and when need arise and will be finalized accordingly. Cost or profit (if any) can be decided mutually and will be shared on a mutually agreed basis.
  3. **Confidentiality:** Either party guarantees and acknowledges that all information whether in writing or oral or otherwise obtained from other party under this MoU would be kept strictly confidential during the MoU or after cessation, either party shall not divulge, disclose or impart to any third person/organization. The provision of this clause shall survive the termination of this MoU.
  4. **Validity of MoU:** This MoU shall be valid for a period of 12 months from the date of signing by KKWOP & Mahidhar Wealth Creators. This MoU shall be renewed for further term with mutual consent. Either party may terminate this MoU by giving 30 days prior written notice to the other. Neither party hereunder shall be liable for any consequential loss or damages arising out of the performance of obligations under the terms of this MoU.

5. **Agreed to:**

For K. K. Wagh College of Pharmacy, Nashik

For: Mahidhar Wealth Creators, Ahmedabad.

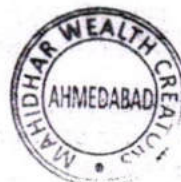
Name: (Dr. Kishor S. Jain)

(Mr. Prakash V Mahidhar)

PRINCIPAL

Stamp and seal K. K. Wagh College of Pharmacy  
Nashik-422 003.

Stamp and seal



*(Signature)*

PRINCIPAL

K. K. Wagh College of Pharmacy  
Nashik-422 003

**MEMORANDUM OF  
UNDERSTANDING**

**Between**

**K. K. Wagh College of Pharmacy, Nashik**

**(B. Pharmacy)**

**&**

**Pharm Alliance,**

**Ahmedabad**



**Memorandum of Understanding between  
PharmAlliance, Ahmedabad  
and  
K.K.Wagh College of Pharmacy, Nashik**

This Memorandum of Understanding (MoU), is made on 9/12/2019 between **PharmAlliance** having its office at Unit 401, Ashirwad Complex Opp. Sardar Patel Sewa Samaj Hall, Mithakhali, Ellis Bridge, Ahmedabad, Gujarat, India and **K. K. Wagh College of Pharmacy (KKWCoP)** and having its office at Hirabai Haridas Vidyanagari, Panchwati, Nashik, Maharashtra, India.

Hereafter **K. K. Wagh College of Pharmacy** to be referred as **KKWCoP**.

**Introduction about PharmAlliance and K. K. Wagh College of Pharmacy**

**About- PharmAlliance, Ahmedabad.**

It is a knowledge driven, independent, professional consultancy firm, dedicated to serving the pharmaceutical, biopharmaceutical, API (active pharmaceutical ingredient), excipient, medical device and allied industries in the "regulated", and other emerging markets around the rest of the world. **PharmAlliance** has decided to collaborate with **K. K. Wagh College of Pharmacy, Nashik**.

**About – K. K. Wagh College of Pharmacy, Nashik.**

It is a professional pharmacy college imparting Quality Pharmacy Education. The college is affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Maharashtra and approved by AICTE, PCI, New Delhi and State government of Maharashtra. The college offers four years B. Pharmacy degree course with an annual intake of 100. Whereas the parties have decided to enter into a strategic alliance on terms mutually beneficial to them.

**Objectives of Cooperation**

The main objective of this MoU is to provide a platform to build a strong and on-going relationship between **PharmAlliance** and **KKWCoP**.

**1. Areas for Cooperation**

**1.1 Part of academic curriculum planning**

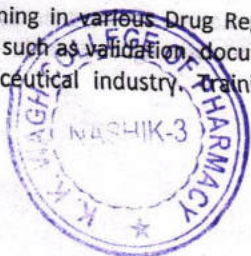
**PharmAlliance** may participate in revising and planning the academic curriculum by providing the industrial inputs to **KKWCoP** for enhancing the curriculum in certain subjects/disciplines of its expertise.

**1.2 Participation in knowledge sharing at KKWCoP**

**PharmAlliance** may provide its employees to participate and deliver technical presentations and talks on topics based on mutual discussions and interest. Such lectures shall either be a part of the curriculum or a value-added knowledge sharing for the students.

**1.3 Training for Undergraduates**

**PharmAlliance** may offer training in various Drug Regulatory Affairs aspects, as well as, Quality Assurance Techniques aspects such as validation, documentation, cGMP and also in field of Quality Audits of drugs and Pharmaceutical industry. Training for minimum 50 participants shall be conducted.



  
**PRINCIPAL**  
**K. K. Wagh College of Pharmacy**  
**Nashik-422 003**



#### 1.4 Placement and Internship to Students

PharmAlliance may offer job opportunities and internship to students of KKWCoP as and when they have openings and suitability.

#### 1.5 Training for staff

PharmAlliance may arrange training programmes / workshops for the faculty members.

#### 1.6 K. K. Wagh College of Pharmacy, Nashik (KKWCoP) shall offer

- Its library facilities to PharmAlliance Pharmaceuticals employees.
- Manpower facilities for the conducts of surveys (like market, manpower survey etc) of mutual interests.
- Playground for conducting sports activities for PharmAlliance Employees.
- Class rooms and seminar halls for conducting organizational and recruitment activities.
- A platform through seminar/workshop/conference etc. to PharmAlliance Pharmaceuticals to showcase its business activities.
- To organize guest lectures, workshops, conferences, seminars and symposia with joint participation of the faculty and the experts from PharmAlliance for the upliftment of pharmacy professionals.

#### 1.7 Training Programs / Seminars / Workshops for Pharmaceutical Industry Professionals

PharmAlliance and KKWCoP will work together for designing and conducting customized training programs, workshops, and seminars for Pharmaceutical and Allied Companies and Pharmaceutical Industry Professionals which are unique to their specific needs. These programs could cover any area of Operations, Regulatory Affairs and Compliance Management. Training can be conducted in-house in individual Companies or at KKWCoP for all levels of industry personnel who are responsible for regulatory affairs, product development, manufacturing operations and in-process controls, quality control, quality assurance, and preclinical or clinical testing and research.

The cost and / or fee structure for services offered mutually by both parties to each other and / or to third parties (such as industry) will be mutually agreed upon between PharmAlliance and KKWCoP.

2. **Commercial aspects:** The commercial aspects for the implementation of above mutual facilities / coordination / trainings etc. will be decided as and when need arise and will be finalized accordingly. Cost / Revenue / Profit (if any) can be decided mutually and will be shared on a mutually agreed basis.
3. **Confidentiality:** Either party guarantees and acknowledges that all information whether in writing or oral or otherwise obtained from other party under this MoU would be kept strictly confidential during the MoU or after cessation, either party shall not divulge, disclose or impart to any third person/organization. The provision of this clause shall survive the termination of this MoU.
4. **Validity of the MoU:** This MoU shall be valid for a period of 12 months from the date of signing by KKWCOP & PharmAlliance. Thereafter this MoU shall be renewed for further additional term with mutual consent. Either party may terminate this MoU by giving 30 days prior written notice to the other. Neither party hereunder shall be liable for any consequential loss or damages arising out of the performance of obligations under the terms of this MoU.



  
**PRINCIPAL**  
 K. K. Wagh College of Pharmacy  
 Nashik-422 003



Agreed to:

For PharmAlliance,  
Ahmedabad

By: Mr. Asaf Sharifi

(Signature)

Seal and stamp

Date: Dec 9, 2019



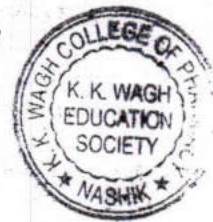
For K. K. Wagh College of Pharmacy,  
Nashik

By: Dr. K. S. Jain

(Signature)

Seal and stamp **PRINCIPAL**  
K. K. Wagh College of Pharmacy  
Nashik-422 003.

Date: Dec 9<sup>th</sup> 2019



**PRINCIPAL**  
K. K. Wagh College  
Nashik-422 003



## **K. K. WAGH COLLEGE OF PHARMACY**

**(B. Pharmacy & D. Pharmacy)**

**Hirabai Haridas Vidyanagari, Amrutdham, Panchavati, Nashik - 422 003. (Maharashtra) India.**

☎ : 0253 - 2221121, 2517003, 2510262    Web : [www.pharmacy.kkwagh.edu.in](http://www.pharmacy.kkwagh.edu.in)

Email: [principal-bpharmacy@kkwagh.edu.in](mailto:principal-bpharmacy@kkwagh.edu.in), [disp-bpharmacy@kkwagh.edu.in](mailto:disp-bpharmacy@kkwagh.edu.in)

(Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, MSBTE, Mumbai & Approved by PCI)

**Research work collaborated  
with other institute**





**Title of the book/chapters published-** Artificial Intelligence and Machine Learning-Based Manufacturing and Drug Product Marketing

**Name of the faculty-** Kajal Baviskar, Anjali Bedse, Shilpa Raut, Narayana Darapaneni

**Name of the publisher-** Scrivener Publishing LLC, Wiley Online Library

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Chapter 10

# Artificial Intelligence and Machine Learning-Based Manufacturing and Drug Product Marketing

Kajal Baviskar, Anjali Bedse, Shilpa Raut, Narayana Darapaneni

Book Editor(s): Vivek Chavda, Krishnan Anand, Vasso Apostolopoulos

First published: 07 February 2023 | <https://doi.org/10.1002/9781119865728.ch10>

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## Summary

Artificial Intelligence (AI) and Machine Learning (ML) are the new drivers for the industry 4.0 revolution. Its use is becoming widespread across society. The dawn of AI and ML can also be witnessed in the pharmaceutical industry. The manufacturing sector has been significantly impacted by AI-ML. The ability of ML strategies to predict future events has allowed for the deciphering of complicated patterns in manufacturing patterns. This has opened the avenues for an intelligent decision support system in different manufacturing tasks like intuitive and continual inspection, fault detection, quality enhancement,

[onlinelibrary.wiley.com/doi/10.1002/9781119865728.ch10#pane-pcw-details](https://onlinelibrary.wiley.com/doi/10.1002/9781119865728.ch10#pane-pcw-details) of supply chain, and much more. ML approaches



**PRINCIPAL**

K.K. Wagh College of Pharmacy  
Panchavati, Nashik-422 003.

**Title of Paper-** Homology modeling and docking studies for Lanosterol 14 $\alpha$ -demethylase of *Candida albicans* and 1,2,4-triazole containing 1,3,4-oxadiazole derivatives.

**Name of Author/s-** Sachin N. Kapse, Hitesh V. Shahare, Gokul S. Talele, Rakesh D. Amrutkar, Prashant P. Chavan, Bhavesh B. Amrute, Yogesh V. Patil

**Name of Journal-** NeuroQuantology

NeuroQuantology | May 2022 | Volume 20 | Issue 5 | Page XXXX-XXXX | doi: 10.14704/nq.2022.20.5.NQ22XXXX

Sachin N. Kapse et al. Homology modeling and docking studies for Lanosterol 14 $\alpha$ -demethylase of *Candida albicans* and 1,2,4-triazole containing 1,3,4-oxadiazole derivatives



## Homology modeling and docking studies for Lanosterol 14 $\alpha$ -demethylase of *Candida albicans* and 1,2,4-triazole containing 1,3,4-oxadiazole derivatives

Sachin N. Kapse<sup>1\*</sup>, Hitesh V. Shahare<sup>2</sup>, Gokul S. Talele<sup>1</sup>, Rakesh D. Amrutkar<sup>3</sup>, Prashant P. Chavan<sup>1</sup>, Bhavesh B. Amrute<sup>2</sup>, Yogesh V. Patil<sup>1</sup>

### Abstract

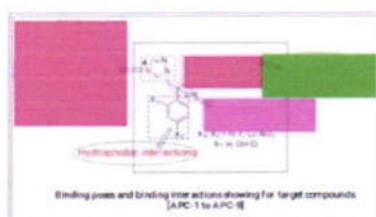
Newly synthesized 1,2,4-triazole containing 1,3,4-oxadiazole derivative acts as an antifungal agent which inhibits CYP51. Lanosterol 14 $\alpha$ -demethylase is the target for azole antifungal agents. This work emphasizes to build 3D model structure of cytochrome P450 lanosterol 14 $\alpha$ -demethylase of *Candida albicans* from *Saccharomyces cerevisiae* by using 3LD6 as a template. The reliability of the models was assessed by Ramachandran plots and Profile-3D analysis. Docking identified the binding mode of derivatives in modeled CYP51. In docking studies N-4 nitrogen of the 1,2,4-triazole interacts with the heme portion of the porphyrin ring of the target receptor along with hydrogen bonding,  $\pi$ -stacking, and hydrophobic bonding. Among all derivatives APC-1, APC-3, APC-7 were found to have significant interactions with the active site of the receptor by calculating dock scores and binding energies. So, it can be concluded that the structural model of CYP51 can be used for the optimization and designing of the newer antifungal agents.

**Key Words:** Homology modelling, Molecular Docking, Lanosterol 14 $\alpha$ -demethylase, *Candida albicans*, 1,2,4-triazole containing 1,3,4-oxadiazole derivatives

**DOI Number:** 10.14704/nq.2022.20.5.NQ22XXXX

**NeuroQuantology** 2022; 20(5): XXXX-XXXX

### Graphical Abstract



### Introduction

Over the past decade, fungal infections have become a major complication and cause of morbidity and mortality in immune compromised individuals such as those suffering from tuberculosis, cancer, acquired immune deficiency syndrome (AIDS), and in organ transplant cases. [1-3] Azoles are a large and relatively new group of synthetic compounds. Imidazole's and triazoles are two azole derivatives employed in the treatment of systemic fungal infections as well as in the agriculture. 4-6] Azole antifungal agents inhibit the cytochrome P450 sterol 14 $\alpha$ -demethylase (14DM, CYP51) by a mechanism in which the heterocyclic

**Corresponding author:** Hitesh V. Shahare

**Address:** <sup>1</sup>Dept. Pharm. Chem., Matoshri College of Pharmacy, Nashik, Maharashtra, <sup>2</sup>Dept. Pharm. Chem., SNJBs Shriman Sureshdada Jain College of Pharmacy, Chandwad, Nashik, Maharashtra, <sup>3</sup>Dept. Pharm. Chem., K. K. Wagh College of Pharmacy, Amrutdham, Nashik, Maharashtra  
E-mail: [hvshahare@gmail.com](mailto:hvshahare@gmail.com)

ISSN 1303-5150



[www.neuroquantology.com](http://www.neuroquantology.com)





**PRINCIPAL**  
K.K.Wagh College of Pharmacy  
Panchavati, Nashik-422 003.



**Title of Paper-** Formulation of oxybutynin chloride microparticle-loaded suppositories: in vitro characterization and in vivo pharmacokinetic study.

**Name of Author/s-** Bedse, A., Mahajan, H. & Dhamane, S.

**Name of Journal-** Future Journal of Pharmaceutical Sciences

Bedse et al.  
Future Journal of Pharmaceutical Sciences (2022) 8:22  
<https://doi.org/10.1186/s43094-022-00411-x>

Future Journal of  
Pharmaceutical Sciences

**RESEARCH****Open Access**

## Formulation of oxybutynin chloride microparticle-loaded suppositories: in vitro characterization and in vivo pharmacokinetic study

Anjali Bedse<sup>1\*</sup>, Hitendra Mahajan<sup>2</sup> and Suchita Dhamane<sup>3</sup>

**Abstract**

**Background:** Oxybutynin chloride (OXC) is used to treat overactive urinary bladder. OXC is metabolized in the liver to N-desethyloxybutynin, which is mainly responsible for the anticholinergic side effects of OXC. Conventional oxybutynin suppositories formulated earlier have shown most common side effects, such as dry mouth, constipation and serious anticholinergic reaction. Hence the present research work deals with the formulation and characterization of OXC microparticle-loaded mucoadhesive suppositories which may remain adhered in the lower rectum and avoid first pass metabolism. The emulsification-ionic gelation method is employed to prepare OXC microparticles. Two formulation factors at three levels, i.e. polymer concentration and stirring speed, were selected. Sodium alginate (concentration 1–2%) and 1% w/v Carbopol 971P were used to prepare OXC microparticles. OXC microparticles were evaluated for various parameters such as production yield, entrapment efficiency, mucoadhesive strength, shape, size, zeta potential, Fourier Transform Infrared spectroscopy, differential scanning calorimetry, X-ray diffraction, in vitro dissolution studies and stability studies. Suppositories loaded with OXC microparticles were prepared by the fusion method using Poloxamer 188 and propylene glycol and evaluated for various parameters like weight variation, disintegration time, in vitro dissolution study, stability study and pharmacokinetic study.

**Results:** Results of in vitro characterization revealed that optimized batch of OXC loaded microparticles exhibited production yield 94.024%, entrapment efficiency 95.378% and mucoadhesion strength 95.544%, particle size range 764.04–894.13 µm, zeta potential – 14.5 mV, with 0.946 desirability. Consequences of DSC and XRPD evaluation shown that drug was effectively entrapped inside the microparticles. In vitro release studies revealed improvement in drug dissolution as a consequence of its entrapment into microparticles. SEM results showed that micelles were sphere-shaped. On rectal administration of OXC microparticles loaded suppository in male Sprague–Dawley Rats, the relative bioavailability was found 173.72%.

**Conclusion:** In vivo study elicits rapid increase in absorption of drug from microparticles loaded suppository when compared with the oral formulation and drug loaded suppository in rats. OXC microparticles loaded suppository is novel and promising drug delivery system for rectal administration and may avoid anticholinergic side effects of hepatic metabolite, N-desethyloxybutynin. These rectal drug delivery systems will be advantageous for efficient absorption of drugs and to avoid first pass metabolism.

**Keywords:** Oxybutynin chloride, Microparticles, Sodium alginate, Carbopol 971 P, Poloxamer, Suppository

\*Correspondence: [bedseanjali1980@gmail.com](mailto:bedseanjali1980@gmail.com)

<sup>1</sup> K.K.Wagh College of Pharmacy, Nashik, Maharashtra 422003, India

Full list of author information is available at the end of the article



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**PRINCIPAL**

K.K.Wagh College of Pharmacy  
Panchavati, Nashik-422 003.

**Title of Paper-** Development and Characterization of Topical Micro-Emulsion as Novel Drug Delivery System for Dapsone

**Name of Author/s-** Bedse A, Nikam A, Kulkarni A, Potnis V, Dhamane S.

**Name of Journal-** International Journal of Pharmaceutical Sciences and Nanotechnology



*International Journal of*  
**Pharmaceutical Sciences and Nanotechnology**

[www.ijpsnonline.com](http://www.ijpsnonline.com)



#### RESEARCH PAPER

### Development and Characterization of Topical Micro-Emulsion as Novel Drug Delivery System for Dapsone

Anjali Bedse<sup>1</sup> | Ajinath Nikam<sup>2</sup> | Aditi Kulkarni<sup>2</sup> | Vaishali Potnis<sup>2</sup> | Suchita Dhamane<sup>2\*</sup>

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**How to cite this article:** Bedse A, Nikam A, Kulkarni A, Potnis V, Dhamane S. Development and Characterization of Topical Micro-Emulsion as Novel Drug Delivery System for Dapsone. International Journal of Pharmaceutical Sciences and Nanotechnology. 2022 Jan 1;15(1):5805-5812

<https://doi.org/10.37285/ijpsn.2022.15.1.8>

#### ABSTRACT

Dapsone is a Biopharmaceutical Classification System class II drug with anti-inflammatory, immunosuppressive, antibacterial, and antibiotic properties and is used as an antileprotic. The purpose of the present study was to investigate the potential of a microemulsion formulation for topical delivery of dapsone to enhance permeation and to avoid systemic side effects. When administered orally, dapsone undergoes hepatic metabolism. Its hepatic metabolite, dapsone hydroxylamine, shows systemic side effects such as hemolytic anaemia peripheral neuropathy, nausea, and headache. A novel drug delivery system in the form of a microemulsion was developed for dapsone. This is the first attempt that dapsone has been combined with chaulmoogra oil in a topical microemulsion. The primary drugs used for the treatment of leprosy are found in chaulmoogra seeds. Considering its good solubilizing capacity and its use in the treatment of leprosy, chaulmoogra oil was chosen as the oil phase. Based on emulsification ability, Cremophor RH40 and PEG 400 were selected as surfactant and co-surfactant, respectively. A pseudo-ternary phase diagram was constructed to identify the microemulsion region. Smix (Cremophor RH40: PEG-400 in the ratio of 1:2) was most effective in imparting stability to the formulation. The selected formulation exhibited appropriate diffusion behavior (*in vitro*). The developed dapsone containing microemulsion formulation exhibited the optimal homogeneity, clarity, pH, type of microemulsion, viscosity, percent drug content, and percent transmittance to qualify as a topical drug delivery system for local treatment of leprosy.

#### KEYWORDS

Microemulsion, Dapsone, Topical drug delivery system, Chaulmoogra oil, Anti mycobacterial activity, HET-CAM test.

#### INTRODUCTION

Leprosy, or Hansen's disease (HD), is a bacterial disease known from historic times, although curable, it continues to be a significant health problem worldwide. This disease affects mainly the peripheral nerves and skin, but may also affect sites such as the eyes, mucous

membranes, bones, and testes and produces a spectrum of clinical phenotypes (Saonere, 2011).

Dapsone is the principal drug in a multidrug regimen recommended by the World Health Organization for treating leprosy. Dapsone is a sulfone with anti-inflammatory, immunosuppressive, antibacterial and antibiotic properties. The water solubility of dapsone is



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**Title of Paper-** Polyphenols: The interactions with CYP 450 isoenzymes and effect on pharmacokinetics of drugs

**Name of Author/s-** Bhamre Vaibhav G, Deore Pranjal D, Amrutkar Rakesh D<sup>3</sup>, Patil Vinod R.

**Name of Journal-** Current Trends in Pharmacy and Pharmaceutical Chemistry

Current Trends in Pharmacy and Pharmaceutical Chemistry 2022-4(1):13-23

Content available at: <https://www.ipinnovative.com/open-access-journals>

Current Trends in Pharmacy and Pharmaceutical Chemistry

Journal homepage: <https://www.ctppc.org/>



#### Review Article

### Polyphenols: The interactions with CYP<sub>450</sub> isoenzymes and effect on pharmacokinetics of drugs

**Bhamre Vaibhav G.<sup>1,\*</sup>, Deore Pranjal D.<sup>2</sup>, Amrutkar Rakesh D<sup>3</sup>, Patil Vinod R.<sup>4</sup>**

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#### ARTICLE INFO

##### Article history:

Received 05-12-2021

Accepted 20-01-2022

Available online 17-02-2022

##### Keywords:

Polyphenols

CYP 450 isoenzymes

Pharmacokinetics

#### ABSTRACT

Recent clinical studies demonstrated that certain natural polyphenols like flavonoids present in dietary supplements modify the pharmacokinetics of some co-administered drugs. Number of herbal remedies interact selectively with different CYP<sub>450</sub> isoenzymes and hence alter CYP-mediated drug metabolism and pharmacokinetics. Drug-polyphenol interaction may alter drug bio availability through altered absorption, distribution and metabolism. There is need to collect clinical evidences to support whether the effect of drugs and polyphenols co-administration rather than relying on in-vitro experiments or animal studies. Herbal drugs containing variety of polyphenols interact with CYP<sub>450</sub> enzymes leading to either induction or inhibition of CYPs which alters the pharmacokinetic parameters of their respective substrate drugs. This information will be helpful for physicians and pharmacists to alleviate risks associated with polyphenolic remedies as well as to realize the benefits of alternative medicine.

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#### 1. Introduction

More than 8000 polyphenolic compounds have been identified in various plant species, having several important functions. The phenolic groups in polyphenols can accept an electron to form relatively stable phenoxyl radicals, thereby disrupting chain oxidation reactions in cellular components.<sup>1</sup> In addition to fruits and vegetables, leaves, nuts, seeds, barks and flowers are also rich sources of polyphenols.<sup>2</sup> On the basis of in vivo or in vitro evidence, inhibition of the CYP forms responsible for the metabolism of co-administered drugs has been proposed as the mechanism responsible for the pharmacokinetic interactions caused by flavonoids.<sup>3</sup> Flavonoids have high potencies and selectivities for inhibition of CYP1A

isoenzymes.<sup>4</sup> Polyphenols may be classified into different groups as a function of the number of phenol rings that they contain and of the structural elements that bind these rings to one another. The main classes include phenolic acids, diferuloylmethanes, flavonoids, stilbenes and lignans. Phenolic acids are further classified as hydroxycinnamic acids (e.g. Caffeic acid, Caftaric acid) and hydroxybenzoic acids (e.g. Ellagic acid, Gallic acid, Corilagin). Diferuloylmethanes are phenolic compounds with two aromatic rings substituted with hydroxyls, and linked by aliphatic chain containing carbonyl groups (e.g. Curcumin).

The major and most abundant class within the dietary polyphenols is flavonoids and is further classified as: Anthocyanidins (e.g. Cyanidin, Delphinidin, Pelargonidin) and different Anthoxanthins including Flavonols (e.g. Myricetin, Quercetin, Kaempferol), Flavanones (e.g.

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E-mail address: [vaibhav.bhamre@gmail.com](mailto:vaibhav.bhamre@gmail.com) (Bhamre Vaibhav G.).

<https://doi.org/10.18231/ij.ctppc.2022.004>

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**Title of Paper-** Modified Solubility of Etodolac through Solid Dispersion and Complexation

**Name of Author/s-** Vaibhav Gulabrao Bhamare, Ravindra Keshavrao Kamble

**Name of Journal-** Research Journal of Pharmacy and Technology

Research J. Pharm. and Tech. 15(2): February 2022

ISSN 0974-3618 (Print)  
0974-360X (Online)

www.rjptonline.org



## RESEARCH ARTICLE

### Modified Solubility of Etodolac through Solid Dispersion and Complexation

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#### ABSTRACT:

Solubility and dissolution is an essential requirement for any drug to perform well in vivo. The present research was undertaken to enhance the dissolution rate of poor water soluble drug Etodolac through solid dispersion and complexation technique. Fusion method and kneading methods were employed for solubility enhancement by Solid Dispersion technique and complexation technique respectively. PEG-6000, HPMC K4M,  $\beta$ -Cyclodextrin and PVPK-30 are used as carriers. Physical mixtures were prepared in different ratio of drug and carriers. The prepared blends were evaluated for solubility, drug content, percent yield and drug release. Solubility enhancement was observed for all the experimental mixtures having maximum attainment for polymers PEG 6000 and PVPK-30. Pre and post enhancement Etodolac solubility values confirm the successful modification in solubility of drug through solid dispersion technique and complexation technique with slight edge toward complexation technique.

**KEYWORDS:** Etodolac, Solubility, Solid dispersion, Complexation, Carrier.

#### INTRODUCTION:

Solubility and dissolution of drugs is a crucial prerequisite to the performance of the drug in vivo. The major share (90%) of the active pharmaceutical ingredients in the development pipeline and 40 % of the drugs in the market are poorly water soluble. Hence, solubility is still an important area of the research.<sup>1,2</sup> According to the Noyes-Whitney equation, the dissolution rate of a drug substance is directly proportional to its equilibrium solubility.<sup>3</sup> However, the nature of the dissolving solid and the dissolution medium also exert strong influences on the dissolution rate.<sup>4</sup> Various physical, chemical and miscellaneous approaches have been used to enhance the solubility and dissolution of the poorly water soluble drugs.<sup>5,6</sup>

However, solid dispersion or complexation is still preferred technique to improve solubility due to its obvious advantages. The term solid dispersion refers to a drug-polymer two component system generally consisting of a hydrophilic matrix and a hydrophobic drug prepared by hot melt extrusion, melting (fusion) method or solvent evaporation method.<sup>7,8</sup> Usage of solubilizing complexing agent can solve the poor aqueous solubility problem by forming guest (non polar region of one molecule) - host (cavity of another molecule) complexes.<sup>9,10</sup> Small molecules or larger molecules can be taken up by supramolecular cyclic structures. This inclusion complex is possible because of the central cavity in their structure and these so formed cyclic molecules have been explored as drug delivery systems.<sup>11</sup> Etodolac is a nonsteroidal anti-inflammatory agent and inhibitor of prostaglandin synthetase. Etodolac is absorbed from the gastro-intestinal tract with peak plasma concentrations being attained about 1-2 h after ingestion. Etodolac is poorly water soluble, and slightly soluble in simulated gastric fluid. The delayed onset of action is the result of limited dissolution rate due to poor solubility therefore its bioavailability is expected to be limited by its dissolution rate, which could be increased

Received on 23.07.2020      Modified on 29.01.2021  
Accepted on 20.03.2021      © RJPT All right reserved  
Research J. Pharm. and Tech. 2022; 15(2): 683-688.  
DOI: 10.52711/0974-360X.2022.00113



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**Title of Paper-** Design and development of fast dissolving liquisolid formulation**Name of Author/s-** Bhamare Vaibhav G, Kamble Ravindra K**Name of Journal-** Journal of medical, pharmaceutical and allied science

DOI: 10.5552/jmpas.V11I1.2058

ISSN NO. 2320-7418

International peer reviewed open access journal

**Journal of Medical Pharmaceutical and Allied Sciences**Journal homepage: [www.jmpas.com](http://www.jmpas.com) CODEN: JMPACO

Research article

**Design and development of fast dissolving liquisolid formulation**Bhamare Vaibhav G<sup>1</sup>, Kamble Ravindra K<sup>2</sup><sup>1</sup>K. K. Wagh College of Pharmacy, Nashik, Maharashtra, India<sup>2</sup>Blupal Nobles' College of Pharmacy, Udaipur, Rajasthan, India**ABSTRACT**

Various techniques have been employed for the solubility modification of BCS class II drugs. Out of the recent solubility enhancement techniques, Liquisolid technique based on the work of Spireas et al has explored as method that can supplement drug release. Formulations containing Etodolac were developed by dissolving the drug in a non-volatile solvent and then employing the adsorption principle with a carrier and coated material admixture. The post formulation saturation solubility study has highlighted significant modification in solubility of the drug in comparison to pre solubility modification. The Liquisolid formulation then subjected to direct compression for the development of Fast dissolving tablet formulation using two varying concentrations of Sodium Starch Glycolate. The in vitro - in vivo evaluation of research study concludes adaptability and applicability of fast dissolving liquisolid tablet formulation allowing it to overcome barriers associated with the solubility. The optimized formulation found to unveil dissolution along with diffusion from the dosage form by Fickian mechanism.

**Keywords:** Etodolac, Liquisolid, Carrier material, Coating material Fast dissolving tablet, Superdisintegrant.

Received - 28-09-2021, Accepted- 26-01-2022

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IPCA Laboratories Ltd. Mumbai provided the Etodolac as a

**INTRODUCTION**

Solubility phenomena have great influence on pharmaceutical industry. [1]. Post administration of drug by oral route, the absorption and bioavailability of drug in systemic circulation is limited by its solubility and permeability. [2]. The BCS plays vital role for formulation scientist, for advising strategy to increase the effectiveness of drug development by proper choice of dosage form and bioequivalence tests. [3]. Numerous researches on solubility enrichment of BCS class II or class IV drugs have rooted various techniques. [4-6]. Liquisolid approach has been lately explored as a method for improved drug release. [7]. It is therefore proposed that a mathematical model implemented and validated by Spireas and coworkers measures necessary quantities of carrier polymer and coating material. [8-9] to achieve a drug embedded system a system with appropriate flowability and compressibility. In continuation with the solubility enhancement, formulation development has been one tool that has impact on patient compliance. Fast dissolving tablet formulation gaining wide popularity in terms of its bioavailability in shorter duration of time and usefulness toward population in comparison to conventional tablet formulation.

**MATERIALS AND METHODS**

free sample. The rest of the ingredients were of analytical quality. Throughout the investigation, distilled water was used.

**Experimental**

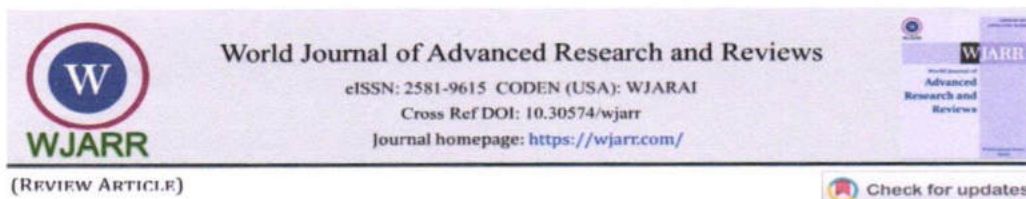
Analytical characterization. [10, 11]. The identity of the drug was confirmed by comparing IR spectrum using FTIR (Shimadzu Affinity press FTIR 1800), thermogram using DSC (Shimadzu DSC 60) and X-Ray powder diffraction spectra (Shimadzu XRD-7000). Same procedure has been employed to identify incompatibility issues (if any) generated when the drug is formulated into fast dissolving tablet formulation post Liquisolid treatment.

Saturation solubility study of drug. [12, 13]. Solubility studies were carried by shake flask method where excess of sample is added into the fixed volume of solvent. The saturated solutions were continuously shaken round-the-clock and the resultant solutions were filtered, appropriate dilutions were prepared and UV absorbance was recorded. The same procedure is employed for formulation post Liquisolid treatment.

Design of Liquisolid system with mathematical modeling. [14-17] It is suggested that a mathematical model executed and





**Title of Paper-** Theoretical consideration of solubility by Hildebrand solubility approach**Name of Author/s-** Vaibhav Gulabrao Bhamare, Renuka Ravindra Joshi, Mayur Sakham Gangurde and Vijay V Pawar.**Name of Journal-** World journal of Advanced Research and Reviews

(REVIEW ARTICLE)

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**Theoretical consideration of solubility by Hildebrand solubility approach**Vaibhav Gulabrao Bhamare <sup>1,\*</sup>, Renuka Ravindra Joshi <sup>2</sup>, Mayur Sakham Gangurde <sup>3</sup> and Vijay V Pawar <sup>3</sup><sup>1</sup> KKWES College of Pharmacy, Panchavati, Nashik, Maharashtra.<sup>2</sup> MG's Institute of Pharmacy, Malegaon Camp Tal: Malegaon Dist: Nashik, Maharashtra.<sup>3</sup> SVS Institute of Pharmacy, Mungase, Tal: Malegaon Dist: Nashik, Maharashtra.

World Journal of Advanced Research and Reviews, 2021, 12(03), 528–541

Publication history: Received on 03 November 2021; revised on 12 December 2021; accepted on 14 December 2021

Article DOI: <https://doi.org/10.30574/wjarr.2021.12.3.0680>**Abstract**

Pharmaceutical field is widely focusing on solubility parameter models to select solvent or non-solvent that can enhance solvency of drug. Solubility Parameter is very useful concept in understanding the mechanism of solvent and solvency behavior with their applications in pharmaceuticals to open the door of research having focus on theoretical considerations of solubility. Hildebrand and Hansen Solubility Parameter are frequently used to identify solvents.

**Keywords:** Solubility; Solvation; Hildebrand Solubility Parameter; Hansen solubility parameter**1. Introduction**

Currently solubility study is on the peak point of formulation scientist and the basic reason is existence of nearly 70% drug in class II of BCS classification [1]. Solubility Parameter is very useful concept in understanding the mechanism of solvent. Hildebrand is the first one to coin the term solubility parameter [2,3]. The Solubility Parameter is a numerical figure which gives solvency behavior of specific solvent [4].

Various Solubility Parameter like Hildebrand Solubility, Hansen Solubility, Fedors, Van Krevelen are in use to depict the solvency behavior of solvent [5]. The Solubility Parameter, which expresses the cohesion between like molecules, is obtained from heat of vaporization, internal pressure, surface tension and other properties as expressed by Hildebrand and Scott [6]. Coating's pharmaceutical, cosmetics foodstuffs are produced as multi-component chemical mixture and Hildebrand solubility Parameter and Hansen solubility parameter plays vital role to meet environmental shelf life and product quality specifications of these compounds [7].

The solubility of drug is very important for pharmaceutical industry. Solubility means ability of solute to dissolve in a solvent especially water [8]. According IUPAC solubility is defined as ratio of designated solute in solvent [9]. Solubility plays major role in the manufacture of liquids orals as well as in the manufacturing of parenteral formulations, also it is important to obtain desired concentration of drug in systemic circulation for getting pharmacological response. The solubility of drugs in gastrointestinal fluids is an important step for absorption of drugs. Thus, solubility phenomenon is important in pharmacy [10,11,12].

**2. Solution as a system**

A solution is a special type of homogeneous mixture composed of two or more substance. A Solvent is a substance that dissolves a solute resulting in a solution. The substance dissolved is called as the solute [13,14,15,16]. Solvents plays vital role like applying coatings, removing stains or adhesive. Choice of solvent mainly depend on factors such as

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### **3.5.1**

**2. List of activities conducted under each MoU along with dates of starting and completion year-wise signed by both parties is provided.**



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## 3.5.1 List of year-wise activities and exchange

Sr. No.	Name of Industry/Hospital/Institute	Start Date	End Date	Activity	Date
a.	Northwestern University School of Professional Studies, Chicago, IL, USA	22/08/2022	07/02/2023	Artificial Intelligence and Machine Learning-Based Manufacturing and Drug Product Marketing	07/02/2023
b.	Department of Civil Engineering K. K. Wagh Engineering and education and research Nasik	19/12/2022	19/12/2022	Research Work	19/12/2022
c.	K. K. Wagh Institute of Engineering Education & Research, Nashik	10/08/2022	09/08/2027	Skilling Program: Advanced Manufacturing Systems	19/12/2022 - 24/12/2022
d.	Shree Yash Hospital, Nashik	06/07/2022	05/07/2024	Session: Awareness About Hypertension & It's Prevention. Check-up camp	06/07/2022
e.	Talent Management Zone Nashik)	20/04/2022	19/04/2027	Course: Basic spoken English and business communication	20/06/2022 - 30/07/2022
f.	Talent Management Zone Nashik)	20/04/2022	19/04/2027	Course: Basic spoken English and business communication	17/05/2022 - 18/06/2022
g.	ASG Eye Hospital, Nashik	05/05/2022	04/05/2024	Seminar: Eye Diseases & Eye Health. Eye Check-up Camp	12/04/2022
h.	Dept. Pharm. Chem., Matoshri College of Pharmacy, Nashik, Maharashtra, 2Dept. Pharm. Chem., SNJBs ShrimanSureshdada Jain College of Pharmacy, Chandwad, Nashik, Maharashtra	15/11/2021	05/2022	Collaborative Research on Homology modeling and docking studies for Lanosterol 14 $\alpha$ -demethylase of Candida albicans and 1,2,4-triazole containing 1,3,4-oxadiazole Derivatives	05/2022
i.	Gokhale's Advanced Training Institute, Jalgaon	21/12/2019	20/12/2020	A session on "DurgSanskritikadunKaryaSanskritikade"	08/04/2022
j.	JayawantraoSawant College of Pharmacy and Research, Hadapsar, Pune- 411028, Maharashtra	11/09/2021	28/03/2022	Collaborative Research on Formulation of oxybutynin chloride microparticle-loaded suppositories: in vitro characterization and in vivo	28/03/2022







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Sr. No.	Name of Industry/Hospital/Institute	Start Date	End Date	Activity	Date
	R.C.Patel Institute of Pharmaceutical Education and Research Shirpur.			pharmacokinetic study	
k.	Jayawantrao Sawant College of Pharmacy and Research, Hadapsar, Pune- 411028, Maharashtra	14/08/2021	28/02/2022	Collaborative Research on Development and Characterization of topical microemulsion as novel drug delivery system for Dapsone	28/02/2022
l.	Cognizant Technology Solution, Pune, Maharashtra, India Dept. of Pharmaceutical Chemistry, K. K. Wagh College of Pharmacy, Nashik, Maharashtra, India Dept. of Pharmacology, S.P. H college of Pharmacy, Malegaon, Maharashtra, India	10/08/2021	17/02/2022	Collaborative Research on Polyphenols: The interactions with CYP 450 isoenzymes and effect on pharmacokinetics of drugs	17/02/2022
m.	Bhupal Nobles' College of Pharmacy, Udaipur, Rajasthan, India	04/08/2021	15/02/2022	Collaborative Research on Modified Solubility of Etodolac through Solid Dispersion and Complexation	15/02/2022
n.	Bhupal Nobles' College of Pharmacy, Udaipur, Rajasthan, India	09/07/2021	26/01/2022	Collaborative Research on Design and development of fast dissolving liquid formulation	26/01/2022
o.	GES Sir Dr M S Gosavi College of Pharmaceutical Education and Research	12/08/2021	02/2022	Book Chapter on Growing impact of herbal bioenhancers in pharmaceutical industries	02/2022
p.	Ingenious Healthcare, Pune	21/01/2021	20/01/2026	Session: Ocean of Career Opportunities in Clinical Research	11/01/2022
q.	RAP Analytical Research and Training Center Nashik	08/01/2021	07/01/2026	Training for students & faculty	07/01/2022 - 08/01/2022
r.	MGV's Institute of Pharmacy, Malegaon Camp Tal: Malegaon Dist: Nashik,	03/05/2021	03/11/2021	Collaborative Research on Theoretical consideration of solubility by Hildebrand	03/11/2021







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Sr. No.	Name of Industry/Hospital/Institute	Start Date	End Date	Activity	Date
	Maharashtra. SVS Institute of Pharmacy, Mungase, Tal: Malegaon Dist: Nashik, Maharashtra.			solubility approach	
s.	Rubicon Skill Development Pvt. Ltd	10/08/2021	12/08/2021	GTT Barclay's Life Skills Development Program	10/08/2021 - 12/08/2021
t.	RAP Analytical Research and Training Center Nashik	08/01/2021	07/01/2026	Training course: Hands on Training on Analytical Instruments	13/03/2021 - 18/04/2021
u.	Board for Upskill Growth of E-India, Pune	09/07/2020	09/07/2025	Course: Pharmacist grooming, sales and marketing upskilling	01/11/2020 - 18/12/2020
v.	Gokhale's Advanced Training Institute, Jalgaon	21/12/2019	20/12/2020	Soft skills Development (Communication skills)	21/08/2020
w.	Gokhale's Advanced Training Institute, Jalgaon	21/12/2019	20/12/2020	Soft skills Development (Resume writing)	21/08/2020
x.	Gokhale's Advanced Training Institute, Jalgaon	21/12/2019	20/12/2020	Soft skills Development (Building confidence)	20/08/2020
y.	PharmAlliance, Ahmedabad	09/12/2019	08/12/2020	Session: Overarching Importance of Compliance in Indian Pharmaceutical Industries.	25/06/2020
z.	Mahidhar Wealth Creators, Ahmedabad	09/12/2019	08/12/2020	Your Finance For You	29/05/2021
aa	Institute of Pharmaceuticals Education & Research, Pune	16/12/2019	15/12/2020	Session on Skills required to be successful in Pharma Profession	27/05/2020
bb	Institute of Pharmaceuticals Education & Research, Pune	16/12/2019	15/12/2020	Oath Ceremony	16/08/2019
cc	Institute of Pharmaceutical Education and Research Pune	16/12/2019	15/12/2020	Certificate Programme in Good Manufacturing Practices	15/08/2019 - 20/09/2019
dd	Institute of Pharmaceutical Education and Research Pune	16/12/2019	15/12/2020	Certificate Programme in Good Manufacturing Practices	18/03/2019 - 18/04/2019
ee	Gokhale's Advanced Training Institute, Jalgaon	21/12/2019	20/12/2020	Session Confidence Building Workshop	01/11/2018



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