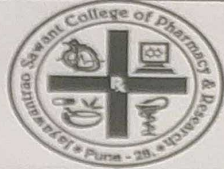
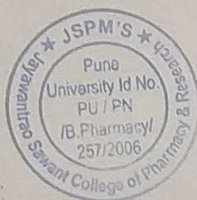
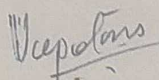
 <b>JSPM</b> Prof. Dr T. J. Sawant B.E.(Elec.), MISTE Founder-Secretary	Jayawant Shikshan Prasarak Mandal's <b>JAYAWANTRAO SAWANT COLLEGE OF PHARMACY &amp; RESEARCH</b>	 Dr V.V. Potnis M Pharm., Ph.D.
	Approved by AICTE, PCI, New Delhi and Govt. of Maharashtra Affiliated to Savitribai Phule Pune University, Pune Accredited by National Assessment and Accreditation Council, Bengaluru	

**Academic Year: 2022-2023**

3.5.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship during the year

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details
1	Athwas- a socio-economac Corridor for Jammu-Kashmir-Ladakh & Maharashtra	ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
2	A workshop on -Academic Collaboration Between Indian and Foreign HEIs –A quality improvement programme on “Implementation Of National Education Policy- 2020”	Savitribai Phule Pune University, Pune
3	Two weeks training programme organized by IQAC and Training placement cell in association with GTT Foundation, Pune	GTT Foundation,Giga Space, Viman Nagar, Pune – 411014, Maharashtra, India
4	Design Patent on "Laboratory Analgesiometer To Predict Analgesic Activity"	SBSPM B-Pharmacy College of Pharmacy Ambejogai
5	Research article publication" Drug Delivery System: A Novel Approach to Formulation Development"	RSMs NN Sattha College of Pharmacy, Ahemadnagar-414 001
6	Research article publication	K.K. Wagh College of Pharmacy, Nasik-422003, Maharashtra, India
7	Research article publication	B. R. Nahata College of Pharmacy Mandsaur University, Mandsaur – 458001 (M.P), India
8	Research article publication	Apex University, Jaipur, Rajasthan.
9	Library Referencing	Maharashtra Arogya Mandal's Sumatibhai Shah Ayurved Mahavidyalay, Pune,
10	Guest lecture on " Current Challenges and Opportunities in Pharma Profession"	JSPM University, Gate No. 720/1&2, Wagholi, Pune-Nagar Road, Pune – 412 207
11	Experiments based on fluid Mechanics	JSPM's Jayawantrao Sawant College of Enginneering, Hadapsar, Pune
12	Workshop on "Advanced Research Methodology & Data Analysis using statistical tool programmes"	JSPM's Jayawantrao Sawant Institute of Management & Research, Hadapsar, Pune
13	Industry Project	MJ Biopharm Pvt. Ltd, Pune
14	Internship in Pharmacy Department	Shwas Multispeciality Hospital, Chakan, Pune-410 501
15	Internship	Stantech Pharmaceutical Pvt. Ltd.,Mumbai
16	Internship	Indian Institute of Toxicology,Pune
17	Internship	Omkar Hospital, Malkapur



  
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 Hadapsar, Pune -411 028



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011-29581000  
Website : www.aicte-india.org



अखिल भारतीय तकनीकी शिक्षा परिषद्

(भारत सरकार का एक सांविधिक निकाय)

(शिक्षा मंत्रालय, भारत सरकार)

नेल्सन मंडेला मार्ग, वसंत कुंज, नई दिल्ली-110070

**ALL INDIA COUNCIL FOR TECHNICAL EDUCATION**

(A Statutory Body of the Govt. of India)

(Ministry of Education, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-110070

**F. No. AICTE/Centralized Counselling/Interactive Session**

**Date: 09.3.2023**

To,

PMSSS Beneficiaries Student

**Subject: Athwas- a socio-economic Corridor for Jammu-Kashmir-Ladakh & Maharashtra at the World Trade Center, Mumbai between 17th-22nd March 2023**

Dear student,

I am directed to inform that Gulshan Foundation is organizing ***Athwas- a socio-economic Corridor for Jammu-Kashmir-Ladakh & Maharashtra at the World Trade Center, Mumbai between 17th-22nd March 2023*** for the students of J&K and Ladakh studying under PMSSS.

The objective of this event is:

- Introduce the concept of Entrepreneurship
- Initiate an interaction of students with businesses in Maharashtra and enterprising minds
- Set a foundation of learning, incubation and interactive knowledge exchange for BRIGHTS of J&K and Ladakh with Maharashtra
- Facilitate unified student learning, with experts in; (Academia and researchers in ED, Industry experts and entrepreneurs, Governmental agencies & executives)

During this event the Gulshan Foundation is conducting an **Entrepreneurship Development Programme** for the benefits of students.

All the students are requested to attend this programme so that they can be benefited.

*No TA/DA will be paid in this regard for attending the programme.*

We thank you and look forward to your kind support for this initiative.

(Sunil Kumar)

**Asst. Director – Scholarship Division**

*Sunil Kumar*  
09/03/2023





Fwd: Athwas- a  
socio-economic Corridor  
for Jammu-Kashmir-Ladakh  
& Maharashtra at the World  
Trade Center, Mumbai  
between 17th-22nd March  
2023



Riya Saini 9:20 am



to me ^

From Riya Saini • sainiriya121@gmail.com

To ARTI BHIMANWAR • aab.jscoopr@gmail.com

Date 5 Feb 2024, 9:20 am



Standard encryption (TLS).

[See security details](#)

----- Forwarded message -----

From: **All India Council for Technical Education(no-reply)** <[admin@aicte-india.org](mailto:admin@aicte-india.org)>





----- Forwarded message -----

From: **All India Council for Technical Education(no-reply)** <[admin@aicte-india.org](mailto:admin@aicte-india.org)>

Date: Thu, 9 Mar 2023, 5:41 pm

Subject: Athwas- a socio-economic Corridor for Jammu-Kashmir-Ladakh & Maharashtra at the World Trade Center, Mumbai between 17th-22nd March 2023

To: <[sainiriya121@gmail.com](mailto:sainiriya121@gmail.com)>

Dear Student,

Please find enclosed scanned copy of the letter which is self explanatory for your information and necessary action.

**Pfa:-** [https://drive.google.com/file/d/12N\\_J6onhTanPGt7QVZI2ItcBYQtVf0-m/view?usp=share\\_link](https://drive.google.com/file/d/12N_J6onhTanPGt7QVZI2ItcBYQtVf0-m/view?usp=share_link)

**Thanks and Regards,  
PMSSS Cell  
AICTE**





# Certificate of Participation



AWARDED TO

...OWAIS MUSHTAQ WANI.....

For participating and completing the Entrepreneurship Workshop successfully  
held at World Trade Centre, Cuff Parade, Mumbai  
From 18th March 2023 to 21 March 2023

A Socio - Economic Corridor for  
Jammu - Kashmir - Ladakh & Maharashtra

**athwas**

Chairman  
FHD

For  
ATHWAS

21 March 2023

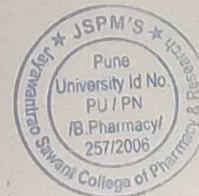
DATE



## Savitribai Phule Pune University

## QUALITY IMPROVEMENT PROGRAMME (2022-2023) FINANCIAL ASSISTANCE FOR ORGANIZING WORKSHOP ON IMPLEMENTATION OF NATIONAL EDUCATIONAL POLICY 2020

21	PUNE (Corporation Area)	The Matrix Educational Foundation Matrix School of Management Studies, Pune Addr: Ambegoan Bk Pune Tal: Pune (corporation Area) Dist: Pune, Pincode: 411041 PUNCODE:IMMP015780 Application ID:SCW221578003 Inward No:150	Multidisciplinary Education	NAAC Accredited Grade: B+ CGPA: 2.63	Ubale Satish Shrawanrao
22	PUNE (Corporation Area)	All India Shri Shivaji Memorial Society College of Pharmacy Addr: College of Pharmacy Kenedy Road Near RTO Pune Tal: Pune (corporation Area) Dist: Pune, Pincode: 411001 PUNCODE:CPHP014250 Application ID:SCW221425004 Inward No:10	Research and Development Cell	NAAC Accredited Grade: A CGPA: 3.1	Madgulkar Ashwini Raghavendra
23	PUNE (Corporation Area)	All India Shri Shivaji Memorial Society College of Hotel Management and Catering Technology Addr: 55-56 Shivajinagar Tal: Pune (corporation Area) Dist: Pune, Pincode: 411005 PUNCODE:CMMP011220 Application ID:SCW221122004 Inward No:161	Adoption of Guidelines on NHEQF and Curriculum Framework and Credit System for Four Year Undergraduate Programme (FYUP)	Applied	Jadhav Sonali
24	PUNE (Corporation Area)	Jayawant Shikshan Prasarak Mandal Jayawantrao Sawant College of Pharmacy and Research Addr: Handewadi Road Hadapsar Pune Tal: Pune (corporation Area) Dist: Pune, Pincode: 411028 PUNCODE:CPHP012640 Application ID:SCW221264002 Inward No:170	Academic Collaboration between Indian and foreign HEIs	NAAC Accredited Grade: B++ CGPA: 2.77	Vaishali Vasant Potnis
25	PUNE (Corporation Area)	Sinhgad Technical Education Society Sinhgad Academy of Engineering Kondhava Pune Addr: Kondhava Saswad Road Kondhava Bu Pune 48 Tal: Pune (corporation Area) Dist: Pune, Pincode: 411048 PUNCODE:CEGP012350 Application ID:SCW221235004 Inward No:111	Research and Development Cell	NAAC Accredited Grade: A CGPA: 3.01	Kishor Puna Patil



*V. Potnis*  
**PRINCIPAL**  
 Jayawantrao Sawant  
 College Of Pharmacy & Research  
 Hadapsar, Pune - 411 028



**JSPM's**  
**Jayawantrao Sawant College of Pharmacy and Research, Hadapsar, Pune-411028.**  
**ACTIVITY REPORT**

**Title of Activity:** *Academic Collaboration between Indian and Foreign HEIs –A quality improvement programme on "Implementation of National Education Policy- 2020"*

**Day/Date, Venue & time:** Monday and Tuesday-23& 24 January 2023 at *Jayawant Sabhagrah* as per programme schedule.

**Outcome of activity:** Enhanced awareness of faculty about implementation of National Education policy vision for HEIs through deliberations related to research, collaborations for higher education as well as employment with foreign universities.

**Description of activity:** The workshop covered 5 sessions related to the theme, Academic Collaboration between Indian and Foreign HEIs. On the first day it covered the real life experiences and exposures of academicians Dr. Ravi Bade and Dr. Yogesh Ushir who collaborated with foreign HOIs for research and joint projects. They discussed benefits as well as challenges of working with foreign academicians and also shared upcoming areas of research the second day was marked with technical sessions by expert Mr. Amol Kawade who discussed preparation for various entrance/eligibility tests that are mandatory for studying at foreign universities of Europe, USA and Canada. Subsequently, Mr. Rajesh Nair, Dr. Vishal Raut and Madhusudan Hanwat, the professionals associated with Recruitment Company, guided the teachers about the recruitment process, opportunities in overseas companies and required skill sets for various job descriptions.

**Activity Experience:** Highly informative , provided insights into the relatively uncharted areas of collaborations with small units such as the college offering undergraduate and post graduate course. It helped identifying the areas for collaborations with foreign HOIs and mechanisms for executing research ideas.

**Feedback:** Formal feedback was collected from the staff and students.

**Number of participants:** 52 Teachers and students.

Dr (Mrs.) SP Dhamane,

Prof. A.D .Kale

Dr (Mrs.) A. A Bhimanwar

Prof. BB Chavan

Ms. A.K.Kolsure

Dr K.R.Kemkar

Activity Coordinators

Dr ( Ms) V.V.Potnis

Principal

**PRINCIPAL**  
Jayawantrao Sawant  
College Of Pharmacy & Research  
Hadapsar, Pune -411 028



*Academic Collaboration Between Indian and Foreign HEIs –A quality improvement programme on “Implementation Of National Education Policy- 2020”*





**JSPM's**  
**Jayawantrao Sawant College of Pharmacy and Research, Hadapsar, Pune-411028.**  
**ACTIVITY REPORT**

**Title of Activity:** \**Two weeks Training Program organized by IQAC and Training and Placement Cell in association with GTT Foundation Pune for B. Pharm Final Year Students*\*\*\*

1. **Day/Date, Venue & time:** Wednesday-01/02/2023 to Friday-17/02/2023, "Jayawanti Sabhagrah" Seminar hall, JSCOPR, Hadapsar 01.00 pm to 04.00 pm.
2. **Objective of activity:** The training program was aimed to upgrade the existing skill as well as to add the additional skills on Soft skills in life and career viz; Positive attitude, English Communication, personality development, interview skills, etc.
3. **Description of activity:** The department of Jayawantrao Sawant College of Pharmacy and Research, Hadapsar, Pune-411028 organized a fifteen days training program.

Following topics majorly covered in 15 days training program:

Training program started with the welcome and introduction of **Mr. Amol Dixit sir, Trainer GTT Foundation Pune**. Mr. Amol Dixit Sir gave expert talk and exercises for students during the session. He taught importance of Soft skills in life and career, gave short introduction of each student, done confidence building activity.

During 15 days training Mr. Amol Dixit sir trained the students for positive attitude and told them about comfort zone. Students understood the importance of positive attitude and how to be in learning zone. They shared their experiences. He taught SWOT Analysis, Communication skills. Students did their SWOT analysis to understand their strengths, Weaknesses, Opportunities, and Threats.

Moreover he focused on English Communication and Goal settings. Group activity for English speaking has been conducted during the session. Time Management and Interview skills, Time is Money, Priority Matrix, What is interview and why it important? related activities were conducted. In the Healthcare Informatics session he gave introduction about technology in healthcare, softwares and Apps, EMR, EHR, Patient form, Telehealth and Telemedicine, Medical knowledge and decision support system DSS, CDSS health insurance management and CRM, Health insurance and its type, importance, Customer Relationship management systems, etc. On last day "**HR Round Interview and Group discussion**" session was conducted. During this session the change in the students' attitude was highly impacted and was up to the mark. They participated all the sessions of the training especially the "**HR Round Interview and Group discussion**" activity full enthusiastically.

**Feedback:** The session was very informative and useful for all participants. It was a very good learning experience; the trainer helped them in understanding the different skills which are needed to become a successful person.

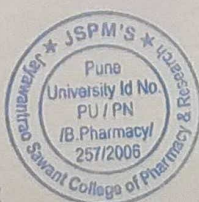
**Outcome of the activity:** Students understood the importance of soft skills in life and career. Initially they found it difficult to introduce themselves but after some motivation they did.

**Number of participants:** Total 72 students.

S. U. Puri

Mrs. Sudha U. Puri

Training Incharge



V. V. Potnis

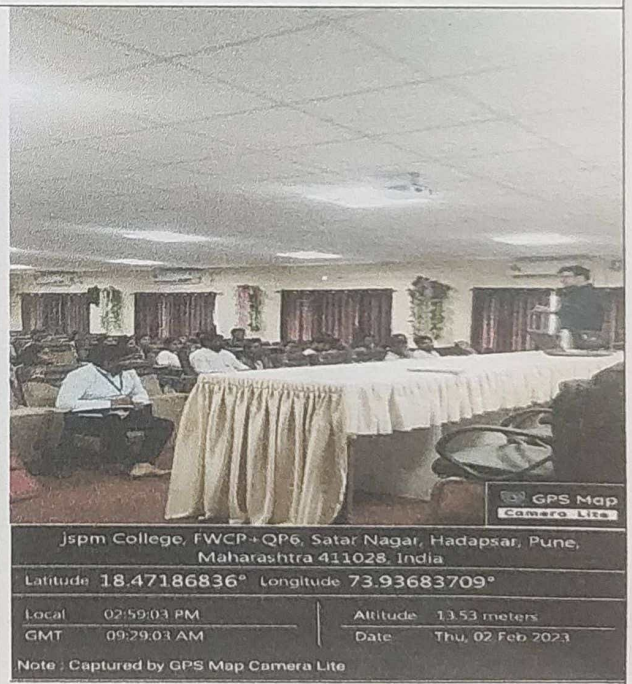
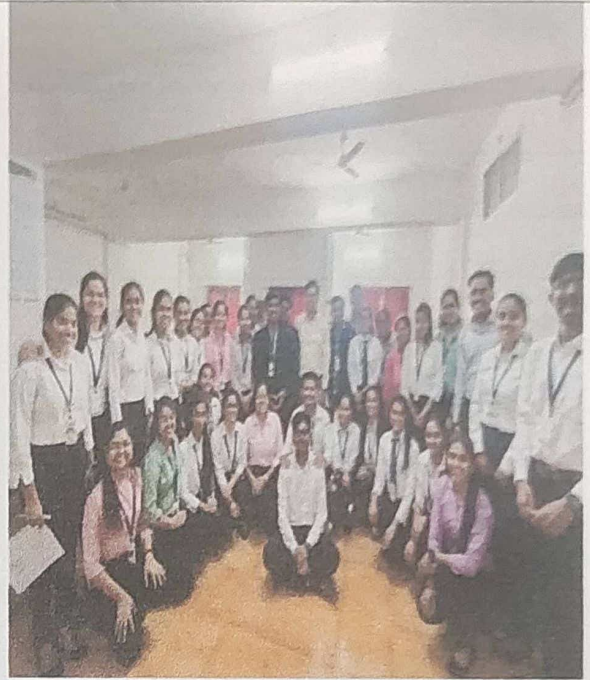
Dr ( Ms ) V. V. Potnis

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**College Of Pharmacy & Research**  
**Hadapsar, Pune - 411 028**

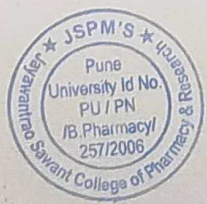


Title of Activity: *\*"Two weeks Training Program organized by IQAC and Training and Placement Cell in association with GTT Foundation Pune for B. Pharm Final Year Students"\**

Glimpse *\*"Training session"\**



GPS Map Camera Lite  
Jspm College, FWCP+QP6, Satar Nagar, Hadapsar, Pune, Maharashtra 411028, India  
Latitude 18.47186836° Longitude 73.93683709°  
Local 02:59:03 PM Altitude 13.53 meters  
GMT 09:29:03 AM Date Thu, 02 Feb 2023  
Note : Captured by GPS Map Camera Lite



*Vupatrai*  
**PRINCIPAL**  
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College Of Pharmacy & Research  
Hadapsar, Pune - 411 028



# Certificate

This Certificate Is Awarded To

**AKHILESH SHINDE**

For successfully completing the Offline Healthcare Training at Atos Prayas Foundation, conducted by GTT Foundation as a part of Atos CSR initiative.

Certification Date:  
Feb-18-2023



Delcy Ajit  
Atos Prayas  
Foundation



Dr. Uma Ganesh  
Principal Trustee,  
GTT Foundation



BB C

Date of publication

24/5/2023



ORIGINAL

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डिजाइन के पंजीकरण का प्रमाणपत्र  
CERTIFICATE OF REGISTRATION OF DESIGN

डिजाइन सं. / Design No. : 382301-001  
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पारस्परिकता तारीख / Reciprocity Date\* :  
देश / Country :

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो **LABORATORY ANALGESIOMETER TO PREDICT ANALGESIC ACTIVITY** से संबंधित है, का पंजीकरण, श्रेणी 24-01 में 1.Prof.(Dr.) Mrunal K. Shirsat 2. Dr. Sampat D.Navale 3.Dr.Tejas S.Pachpute 4.Mr.Bhagwat Babasaheb Chavan 5.Mr. Vishal Sakhare 6.Mr. Jeevan R. Rajguru के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

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## Drug Delivery System: A Novel Approach to Formulation Development

Albhar K.G.<sup>1,3</sup>, Gomase V.S.<sup>1</sup>, Kemkar K.R.<sup>1</sup>, Linge S.G.<sup>1</sup>, Wagh V.S.<sup>2</sup>, Vijayalakshmi A.<sup>3</sup>, Potnis V.V.<sup>1</sup>

<sup>1</sup>Department of Pharmaceutics, Jayawantrao Sawant College of Pharmacy and Research, Savitribai Phule Pune University, Pune, 411028, India.

<sup>2</sup>RSMs N.N.Sattha college of Pharmacy, Ahmednagar, 414001, Dr Babasaheb Ambedkar Technological University, Lonere, 402103, India

<sup>3</sup>Faculty in School of Pharmaceutical Sciences, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Pallavaram, Chennai, 600117, Tamil Nadu, India.

\*Corresponding author's E-mail: viren.gomase1@gmail.com

Received: 10-02-2023; Revised: 28-03-2023; Accepted: 05-04-2023; Published on: 15-04-2023.

### ABSTRACT

One of the fascinating fields of research territories in medical sciences is the development of novel drug delivery systems (NDDS) for the sustained release of medications to mitigate most of the limitations of standard treatments and improve the therapeutic efficacy of a specific drug. To ensure maximal therapeutic efficacy, the drug must be delivered to the target tissue in the appropriate amount and at the appropriate time, resulting in minimal toxicity and adverse effects. Successful treatment of most diseases is limited by a lack of safe and effective drug delivery methods. Drug pharmacological efficacy is significantly impacted by drug delivery techniques. Every drug has an optimum concentration range within which maximum benefit is derived, and concentrations above or below the range can be toxic or provide no therapeutic benefits at all. Therefore, the development of an efficient drug delivery system (DDS) remains a significant challenge in medicine, and this can be achieved only through multidisciplinary approaches to the mechanisms of delivery of drugs to targets in tissues. Consequently, a number of drug delivery and drug targeting systems are being created right now.

**Keywords:** Drug discovery, drug delivery, drug targeting.

QUICK RESPONSE CODE →

DOI:

10.47583/ijpsrr.2023.v79i02.035



DOI link: <http://dx.doi.org/10.47583/ijpsrr.2023.v79i02.035>

### INTRODUCTION

Targeting is the ability to direct the drug(s) to the desired size. There are two primary mechanisms, viz., active and passive, for drug targeting, and several approaches are designed for distributing a therapeutic substance to the target site in a sustained release fashion. A truly intelligent delivery system must address the need for specific targeting, intracellular transport, and biocompatibility while integrating elements of responsive behavior to physiological environments and cognitive feedback control. Target and site categorical distribution with absolute precision can be achieved by annexing bioactive molecules to the liposome, bio-erodible polymer, implants, monoclonal antibodies, and various particulate<sup>1,2</sup>. One such approach is utilizing nanotechnology-based medications as carriers for drugs.

Nanotechnology-based formulations can be used for the sustained relinquishment of drugs, vaccines, antibiotics, and hormones. For example, by capitalizing on the characteristics of nanoparticles, beyond the fundamental

benefits, the Nanoparticles could provide a more immensely colossal surface area and possess a more facile estimation of diffusion and mass transfer department<sup>3</sup>. Polymers have played an integral role in the advancement of DDS by providing controlled release of therapeutic agents in constant doses over long periods, cyclic dosage, and tunable release of both hydrophilic and hydrophobic drugs. The rational design of polymers engineered to perform specific biological functions and tailored for a specific cargo is now the foundation for modern advancements in drug delivery. Hierarchical progress in modern drug delivery begins with polymer carriers to elicit spatiotemporal release of therapeutics in both pulsatile dose delivery products and implanted reservoir systems. The ability to transfer into an aerosol, stability against forces generated during aerosolization, biocompatibility, targeting of specific sites or cell populations in the lung, the release of the drug in a predetermined manner, and degradation within an acceptable time are just a few of the demanding requirements placed on these delivery systems. Nanoparticles made of biodegradable polymers demonstrate assurance in meeting these requirements<sup>4</sup>. Although conventional drug delivery formulations have contributed significantly to the treatment of disease, the emergence of potent and specific biological therapeutics has escalated the impetus for intelligent delivery systems<sup>5</sup>.







***In vivo* pharmacokinetic study of felodipine  
microparticles-loaded rectal dosage form**

Suchita Dhamane,<sup>1</sup> Ajay Surana,<sup>2</sup> Aditi Kulkarni,<sup>3</sup> Shilpa Raut,

<sup>2</sup> Komal Mahajan,<sup>2</sup> Samruddha Wavikar,<sup>2</sup> Hitendra Mahajan,<sup>4</sup> Anjali Bedse<sup>2\*</sup>

1. Jayawantrao Sawant College of Pharmacy and Research, Hadapsar, Pune- 411028,  
Maharashtra, India.

2. K.K.Wagh College of Pharmacy, Nashik-422003, Maharashtra, India.

3. Smt.Kashibai Navale College of Pharmacy, Kondhwa, Pune-411048, Maharashtra,  
India.

4. R.C. Patel Institute of Pharmaceutical Education and Research, Shirpur-425405,  
Maharashtra, India.

\*Corresponding Author

Anjali Bedse

Department of Pharmaceutics

K.K.Wagh College of Pharmacy, Nasik-422003, Maharashtra, India

Email ID: bedseanjali1980@gmail.com

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**Abstract**

The objective of present study was to develop rectal formulation of based on microparticles and perform *in vivo* study of developed rectal formulation in rats. The formulated suppositories were examined for different evaluation parameters like weight variation, disintegration time, *in vitro* dissolution study, stability study and pharmacokinetic study. The disintegration time and percent cumulative drug release of the suppositories were determined in the range between 13.69±0.93 min to 20.94±0.63 min and 88.23±0.91 to 96.47±0.02 respectively. During *In vivo* pharmacokinetic study in male Sprague–Dawley Rats, the relative bioavailability of rectally administered felodipine microparticles loaded suppository was found 148.15%. The study reveals that rectal administration of felodipine as microparticles loaded suppository was an alternate route of administration.

**Key words:** Felodipine, Microparticle loaded suppository, Fusion method, *In vivo* Pharmacokinetic study

---

**1. Introduction**

Rectal route comprise the avoidance of first pass elimination, the possibility of rate controlled drug delivery and absorption enhancement.<sup>1</sup> Suppository presents the common dosage form of rectal administration. Conventional suppositories, which may reach to the end of the canal of the application site, because of its poor mucoadhesive properties, lose drugs at that level, and may also allow the carried



**How to Cite:**

Kolsure, A., Soni, R., & Bhat, M. (2022). Development and validation of reversed phase HPLC method for determination of apremilast in bulk and pharmaceutical dosage form. *International Journal of Health Sciences*, 6(S2), 9484–9493.  
<https://doi.org/10.53730/ijhs.v6nS2.7491>

## **Development and validation of reversed phase HPLC method for determination of apremilast in bulk and pharmaceutical dosage form**

**Anuja Kolsure**

Research Scholar, Faculty of Pharmacy, (B. R. Nahata College of Pharmacy),  
Mandsaur University, Mandsaur -458001 (M.P), India  
Corresponding author email: [anuja.kolsure63@gmail.com](mailto:anuja.kolsure63@gmail.com)

**Rupesh Soni**

Faculty of Pharmacy, (B. R. Nahata College of Pharmacy), Mandsaur University,  
Mandsaur – 458001 (M.P), India

**Mahesh Bhat**

Nuper Therapeutics, A division of Jain Pharmaceuticals, Pune - 411045 (M.H),  
India.

**Abstract**--The present study describes a novel Reversed Phase High-Performance LC method for the determination and estimation of Apremilast (APR) in bulk and pharmaceutical formulation. The chromatographic separation was carried out on Agilent 1120LC Compact system with Binary gradient system connected to UV-Absorbance Detector. Acetonitrile: (30mM) Potassium dihydrogen phosphate buffer pH adjusted to 3.0 with o-phosphoric acid (60:40 v/v), and flow rate 1.0ml/min with an injection volume of 20 µL was selected as it gave sharp symmetric peak for APL with minimal tailing and with desired elution graph. The separation was carried out at a room temperature and the eluents were observed by UV - Vis detector set at 236 nm. The retention time of APR obtained was at 4.46 minutes. The calibration curve for APR was linear ( $r^2= 0.995$ ) over the tested concentration range of 10 - 60 µg/ ml with LOD and LOQ of 0.93 µg/ml and 2.82µg/ml respectively. A recovery of APR in tablet formulation was observed in the range of 98.40 -100.00 %. Thus the proposed method for APR was found to be feasible for the estimation of APR in bulk as well as pharmaceutical dosage form.

**Keywords**---apremilast, RP-HPLC, validation.



## Formulation and evaluation of herbal based capsule and soft chew for liver disorders

### 1. Manisha Kamble

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**Email:** [manishadumbre.MD@gmail.com](mailto:manishadumbre.MD@gmail.com)

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**Institute name and address:** Apex University, Jaipur, Rajasthan.

**Email:** [rajeshverma@apexmail.in](mailto:rajeshverma@apexmail.in)

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**Institute name and address:** Apex University, Jaipur, Rajasthan.

**Email:** [pankajsharma@apexmail.in](mailto:pankajsharma@apexmail.in)

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**Institute name and address:** Siddhant College of Pharmacy, Sudumbre, Pune

**Email:** [rahulkdumbre@gmail.com](mailto:rahulkdumbre@gmail.com)

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**Institute name and address:** Department of Pharmaceutical Sciences, Apex University, Jaipur, Rajasthan.

**Email:** [principal\\_pharmacy@apexmail.in](mailto:principal_pharmacy@apexmail.in)

### 5. Naveen Kumar Singhal

**Institute name and address:** Rajasthan Pharmacy College, Jaipur, Rajasthan.

**Email:** [nksscp@gmail.com](mailto:nksscp@gmail.com)

### For Correspondence

### 1. Manisha Kamble

**Institute name and address:** Apex University, Jaipur, Rajasthan.

**Email:** [manishadumbre.MD@gmail.com](mailto:manishadumbre.MD@gmail.com)

**Contact details:** Mobile no: | Tel. (o): .9028928437

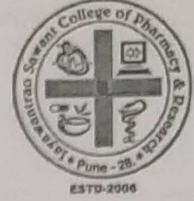
### Abstract

Chronic liver diseases (CLD) represent a major health burden worldwide. According to WHO, approximately 75% of people use herbs to treat CLD globally. The plants traditionally used by native healers to support CLD have been the subject of extensive research in recent years. The combination of herbal plants such as Swarnakshiri, Guduchi, Pipali, and Haridra, Bhringraj was used as an Ayurvedic treatment of diseases. The study aimed to formulate the selected plant extract's hard gelatin and soft chewable capsules with the wet granulation method. The extraction of plant materials was carried out by the Soxhlet extraction method using aqueous water-alcohol media. A chromatographic study was performed to identify active constituents which include Berberine, Tinosporoside, Piperine, Curcumin and Wedelolactone respectively. The hard gelatin capsule was formulated by a combination of Berberine, Tinosporoside, and Piperine, and the soft gelatin capsule was formulated by a combination of Curcumin and Wedelolactone. Capsules were evaluated. The batch F7 optimised was selected for dissolution study for both formulations, weight variation, pH determination, disintegration and dissolution test. Both types of capsules showed 50% of drug release within 2h in buffer and HCl media. The stability study was performed for the prepared formulations for 6 months and the results obtained do not show any significant changes in the drug release profile two formulations. The study's findings suggest that the prepared formulations provide a long-term, safe, and permanent cure for liver disorders with better patient compliance and no side effects.





Jayawant Shikshan Prasarak Mandal's  
**Jayawantrao Sawant**  
**College of Pharmacy & Research**  
Hadapsar, Pune - 411 028



JSCOPR/REQ/Library Facilities/2022-2023/

Date: 23/08/22

To,  
*The Principal,*  
Sumatibai Shah Ayurved Mahavidyalay,  
Hadapsar, Pune

**Subject:** Requisition for availing library facilities.

Madam,

This is a progressive, self-funded pharmacy college managed by Jayawant Shikshan Prasarak Mandal, Pune, and a well-known education trust in the western Maharashtra. The college has been conducting post graduate course; M. Pharm Pharmaceutics since 2012. For the dissertation project of students of M. Pharm III semester, there is a need of referencing of Ayurvedic texts and journals at your college's library facilities.

It will be of great help if you could provide the services. Your services will be duly acknowledged in the report of the dissertation.

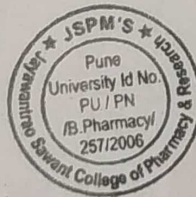
With regards and thanks,

Yours

*V.V. Potnis*  
Dr (Ms) V.V. Potnis

**Principal**

Jayawantrao Sawant  
College of Pharmacy & Research  
Hadapsar, Pune - 411 028.



*Received*

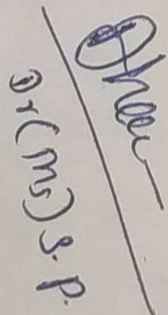
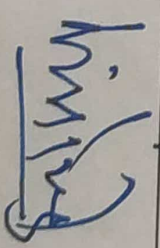
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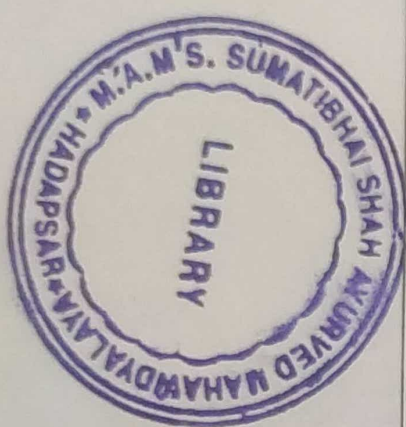
23/08/2022

**LIBRARIAN**

**M.A. S's, Sumatibhai Shah**  
**Ayurved Mahavidyalaya**  
Hadapsar Pune - 411 028

Library usage form

Name of the student	Shipali Gajanan Gowardi pe Shraddha Shankarpelli
Name of research Guide with signature	 Dr. (Mrs) S. P. Dhame
Date	23/08/2022
Time	In time: 12 Pm - out time: 4 Pm
Name and Signature of librarian	



**LIBRARIAN**  
M.A. M's, Sumatibhai Shah  
Ayurved Mahavidyalaya  
Hadapsar Pune 411028



**ACTIVITY REPORT**

A.Y- 2022-23

Date:	11/05/2023
Co-coordinating department/committees :	Training and Placement, Co-curricular and Extra-curricular Activity Cell
Type of activity -	Co-curricular
Duration -	45 minutes
Title of Activity-	"Current challenges and Opportunities in Pharma Profession"
Day/Date, Venue & time-	11 <sup>th</sup> May 2023, Thursday. 3 <sup>rd</sup> floor of JSCOPR, Jayawant Sabhagrah" 11.30 am to 12.30pm

**Description of activity**

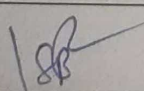
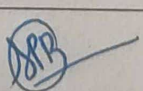
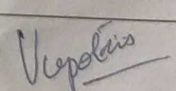
Guest lecture was organized for the students of TYBPH, Final BPH and MPH on topic "Current challenges and Opportunities in Pharma Profession". by Mr. Dr. Mahesh Burande, a senior Pharma Consultant, Trainer and Academician and currently holding position as Director, Pharmacy Programmes JSPM University Wagholi Pune. He elaborated the areas in Pharmaceutical industries that demand B.Pharm and M.Pharm students. Also, he discussed availability such positions all over India. Many queries of the students related to jobs in Pharma industries were addressed. All the staff members along with the students were present for the lecture. Prof. Swati Barangule, introduced the speaker and Prof. A.D.Kale proposed vote of thanks.

**Outcome of activity**

**Increased awareness about the opportunities for career**

**Number of participants:**

**126**

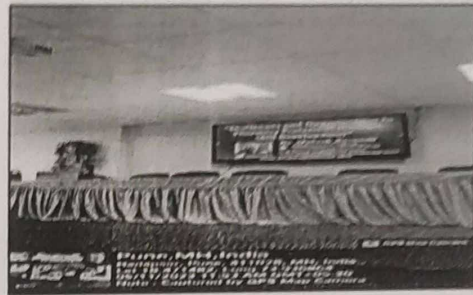
Signature : 	Signature : 	
Name of coordinator: K. S. Belsare	Name of coordinator: S.P. Barangule	Dr (Ms) V.V.Potnis
Designation: Asst. Professor	Designation: Asst. Professor	Principal

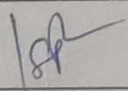
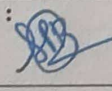
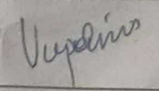


**PRINCIPAL**  
Jayawantrao Sawant  
College Of Pharmacy & Research  
Hadapsar, Pune - 411 028


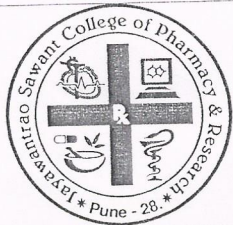
**ACTIVITY REPORT**

**Title of Activity with date: "Current challenges and Opportunities in Pharma Profession"**  
**11/05/2023**



Signature : 	Signature : 	
Name of coordinator: K. S. Belsare	Name of coordinator: S.P. Barangule	Dr (Ms) V.V.Potnis
Designation: Asst. Professor	Designation: Asst. Professor	Principal



	<b>JAYAWANT SHIKSHAN PRASARAK MANDAL'S</b> <b>Jayawantrao Sawant</b> <b>College of Pharmacy and Research</b>	
	S. No. 58, Handewadi Road, Hadapsar, Pune- 411028. <b>Phone : +91-020- 64005920 Tel Fax: +91-020-26970907</b> <b>E-mail : jspm_jscopr@rediffmail.com Website : www.jspm.edu.in</b> (Approved by PCI & AICTE, New Delhi, DTE, Govt. of Maharashtra, Mumbai, and Affiliated to University of Pune)	

Ref. No.: JSPM/JSCOPR/ /2022-23/Collab/ 2073

Date: 03/10/2022

To,

**The Principal,**  
 Jayawantrao Sawant College of Engineering ,  
 Hadapsar, Pune

(Kind Attention, Dr Patil, HOD, Department of Mechanical Engineering )

*Sub: Request for granting permission to the students and faculty of this college for performing a few experiments in practical course in the laboratories of fluid mechanics of your college. ----Reg.*

Sir,

Adverting to the above mentioned subject, this is to convey you that, as per the university syllabi, the students of SYBPH are required to perform a few experiments based on fluid mechanics using different types of flow meters, pumps, determination of Reynolds's number, applications of Bernouli's theorem etc. In view of this, it was noted that the Fluid Mechanics laboratory in your college is well equipped to cater to the needs of said practical course of the subject Pharm Engineering for BPH.

Hence, you are requested to kindly grant permission to the students as well subject teacher **Mr. K.R.Bobe** of this college to visit the said department and conduct the experiments under supervision of the Head of Department of Mechanical Engineering .

*This collaborative initiative would impart hands on experience as well as allow participatory learning to the students of pharmacy about the concepts in fluid mechanics.*

Anticipating favourable response.


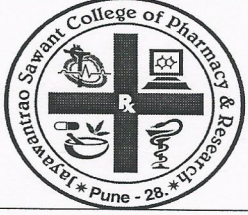
Warm regards and thanks

*V.V.Potnis*  
 Dr (Ms) V.V.Potnis

**PRINCIPAL**  
 Jayawantrao Sawant  
 College of Pharmacy & Research  
 Hadapsar, Pune - 411028

*To*  
**Dr. P. A. Patil**  
 HOD Mech.  
 for n.a please  
*P.A.*  
 7/10/22



	Jayawant Shikshan Prasarak Mandal's <b>JAYAWANTRAO SAWANT COLLEGE OF PHARMACY &amp; RESEARCH</b>	
	Approved by AICTE, PCI, New Delhi and Govt. of Maharashtra Affiliated to Savitribai Phule Pune University, Pune <b>Accredited by National Assessment and Accreditation Council,</b> <b>Bengaluru</b>	
Prof. Dr T. J. Sawant B.E.(Elec.), MISTE Founder-Secretary		

Ref: JSPM/JSCOPR/Acad/Collab2022-23/

Date: 07/10/2022

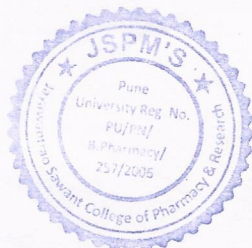
### Notice


All the students of **Second Year B. Pharm. SEM - III** are hereby notified that, the department of Pharmaceutics has organized demonstration practicals of a few experiments of the subject Pharmaceutical Engineering in the laboratories of fluid mechanics of Mechanical Engineering Division of Jayawantrao Sawant College of Engineering, Hadapsar campus as per following schedule . All must be present in college dress code , id and carry lab journal for the said activity without fail.

**Batch-wise schedule for practicals in Mechanical Department of JSCOE.**

Batch	Date	Time
C	10/10/2022	09.30 am to 12.30pm
B	12/10/2022	09.30 am to 12.30pm
A	13/10/2022	09.30 am to 12.30pm

  
Mr.K.R.Bobe



  
Dr (Ms) V.V.Potnis

**PRINCIPAL**  
**Jayawantrao Sawant**  
**College Of Pharmacy & Research**  
**Hadapsar, Pune -411 028**



## Report on : Visit to Fluid Mechanics Lab

Place – JSCOE

Date- 03/11/22

By- GAYATRI KAD

2<sup>nd</sup> Yr. B.PHARM

This report has been written in order that on 12<sup>th</sup> October, all the students of 2<sup>nd</sup> yr. B.PHARM visit to fluid mechanics lab which was in Jayawantrao Sawant college of Engineering under the guidance of Mr. Kisan Bobe sir.


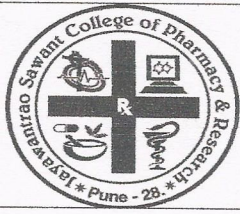
We have observed & Studied various equipments such as :

1. Orifice meter.
2. Venturi meter.
3. Energy losses due to lose fitting.
4. Energy losses due to Friction.
5. Bernoulli's Setup.
6. Reynold's Number.

Mr. Kisan Bobe sir has shared important information about the equipments. And help us to understand the working of the equipments.

Overall we have a good learning experience & thankfull to Mechanical Engineering department & Mr. Kisan Bobe Sir for this opportunity.

Gayatri Kad  
Gayatri Kad.

 <p><b>Prof. Dr T. J. Sawant</b> B.E.(Elec.), MISTE Founder-Secretary</p>	<p style="text-align: center;"><b>Jayawant Shikshan Prasarak Mandal's</b> <b>JAYAWANTRAO SAWANT COLLEGE OF PHARMACY &amp; RESEARCH</b></p> <p style="text-align: center;">(Approved by AICTE, PCL New Delhi and Govt. of Maharashtra Affiliated to Savitribai Phule Pune University, Pune</p> <p style="text-align: center;"><b>Accredited by National Assessment and Accreditation Council,</b> <b>Bengaluru</b></p> <p>UFE Code: 6387      AISHE Code: C-42240</p>	 <p style="text-align: center;"><b>Dr V.V. Potnis</b> M Pharm., Ph.D., Principal</p>
--	--	--

*Ref. No: JSCOPR/Workshop/Invit. Guest /2022-23/*

*Date: 13/05/2023*

To,

*Dr Manohar Karade,*

*The Director ,*

*Jayawantrao Sawant Institute of Management and Research*

*Sub: Invitation for guest speaker for one day workshop.*

Dear Sir,

I appreciate that, you are an astute management personality and your research areas are very broad and comprehensive . The undersigned intends to organize a workshop on Advanced Research Methodology and Data Analysis Using Statistical tools. It would be a tailor-made activity to suit a wide variety of student populations and the professionals from academics as well as from the pharma industries. It is the pressing need of the time that such a resource person like you comes forward to share your vast experience and expertise with the students and teachers of this college.

It is a collaborative effort with JSPM's Jayawantrao Sawant Institute of Management & Research, Hadapsar, Pune .

Hence, you are requested to communicate your acceptance and please forward a copy of your C.V. with photo and , suggest suitable date on the mail id principal@jspmjscopr.edu.in.

Anticipating your positive response and looking forward to the enriching session by you.

Thanking you,

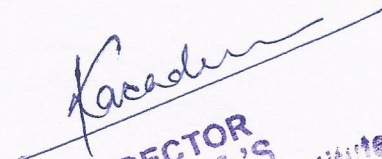
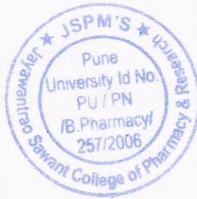
Yours truly,



**Dr (Ms.) V. V. Potnis**

**PRINCIPAL**

**Jayawantrao Sawant  
College Of Pharmacy & Research  
Hadapsar, Pune -411 028**



**DIRECTOR**  
**J. S. P. M.'S**  
**Jayawantrao Sawant Institute**  
**of Management & Research**  
**Hadapsar, Pune - 411 028**

S. No. 58, Handewadi Road, Hadapsar, Pune 411 028.  
Ph: +91- 75955920, Tele Fax: +91- 020-26970907

E- mail: [jspm\\_jscopr@rediffmail.com](mailto:jspm_jscopr@rediffmail.com) Website : [www.jspm.edu.in](http://www.jspm.edu.in)



**ACTIVITY REPORT**

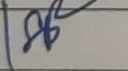
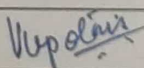
A.Y- 2022-23

Date:	16/05/2023
Co-coordinating department/committees	Training and Placement, Co-curricular and Extra-curricular Activity Cell
Type of activity	Co-curricular
Duration	2 hrs.
Title of Activity-	"Advanced Research Methodology & Data Analysis Using statistical tools programmes."
Day/Date, Venue & time-	16 <sup>th</sup> May 2023, Tuesday , <i>Jayawant Sabhagrah</i> 11.30 am to 12.30 pm

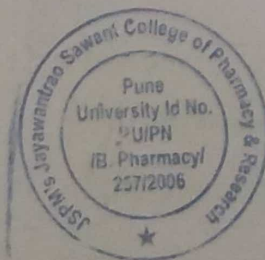
**Description of activity** A workshop was organized for the students of TYBPH, Final BPH and MPH on topic "Advanced Research Methodology & Data Analysis by using statistical tools programmes." by Mr. Dr. Manohar Karade an expert faculty with Ph.D. ROI of T&D, MBA-HRM, Sir deliberated on concept of Research, Research Processes, purpose of academic research, Identification of Research Problems, Process of Research. Students discussed a few queries related to their project work . Ms Kirtee Belsare, introduced the speaker and proposed vote of thanks.

**Outcome of activity** Background training on research proposal , methodology and report writing

**Number of participants:** 79

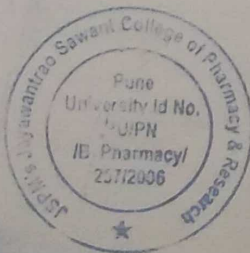
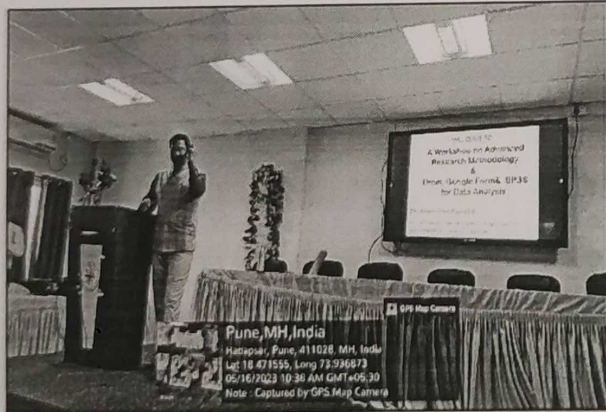
Signature :		
Name of coordinator:	K. S. Belsare	Dr (Ms) V.V.Potnis
Designation:	Asst. Professor	Principal

**PRINCIPAL**  
Jayawantrao Sawant  
College Of Pharmacy & Research  
Hadapsar, Pune -411 028



ACTIVITY REPORT

Title of Activity with date: "Advanced Research Methodology & Data Analysis Using statistical tools programmes" dated 16/05/2023



Signature :		
Name of coordinator: K. S. Belsare		Dr (Ms) V.V.Potnis
Designation: Asst. Professor		Principal

**PRINCIPAL**  
Jayawantrao Sawant  
College Of Pharmacy & Research  
Hadapsar, Pune - 411 028





REF.: HR/TRAINING/2022-2023/CER-11

March 06, 2023

## CERTIFICATE

This is to certify that **Mr. Pratik Balasaheb Jagtap**, student of M. Pharmacy Final year from Jayawantrao Sawant college of pharmacy & Research , Hadapsar, Pune has successfully completed internship training in our organization from 05<sup>th</sup> September, 2022 to 04<sup>th</sup> March, 2023.

He has completed this training as a part of their curriculum with us.

During this period, we found him diligent, hardworking and sincere. We wish him all the best for all future endeavors.

For **M. J. Biopharm Private Limited**

*Gorakshnath Adhane*  
06/03/2023

**Gorakshnath Adhane**  
**Jr. Assistant Manager**  
**HR & Administration**

Date: 28.02.2023

## Internship Completion Certificate

This is to certify that Miss. Roshani Sukate has completed her Internship in Pharmacy Department at Shwas Multispeciality Hospital, Chakan. During the period from 01.01.2023 to 28.02.2023.

During her internship she has been found to be sincere, hardworking and punctual in her work.

We wish her success in her future endeavors.



For Shwas Multispeciality Hospital

Date: 28.02.2023

A/p Chakan





REF: Stan/HR/2023

Date: 11 /07/2023

## CERTIFICATE

We are pleased to certify that **Mr. Tejas Arun Walunj** .Studying Final Year B.Pharmacy, **Jaywantrao Sawant College OF Pharmacy and Research**, Hadpasar, (Pune) Affiliated to Savitribai Phule Pune University, Pune has completed his One Month Internship In-Plant "Inventory Management Training" in our organisation from 01.06.2023 to 10.07.2023

During the above period of his associated with us, we found his sincere & honest in the work assigned to his.

We wish his all the best in future.

For Stantech Pharmaceutical Pvt. Ltd.



Prasad Kurandale

HR & Administration Department

**Stantech Pharmaceuticals Private Limited**

Corporate Office: 7<sup>th</sup> floor, Arcadia, 195 NCPA Marg, Nariman Point, Mumbai – 400 021

Factory: D – 186 Baniangaon MIDC Pune - 412 208



# INDIAN INSTITUTE OF TOXICOLOGY

भारतीय विषविज्ञान संस्था

FOUNDER DIRECTOR Late. DR. M. B. BHIDE (M.D., F.C.A.I)  
Registered Office : "Kim" 2057, Sadashiv Peth, Pune - 411 030.  
Correspondence Office : Flat No. 301, 401 "Usha-Shree"90/124C, Erandawane, Gangote Street,  
Near Kamala Nehru Park, Pune- 411004.  
Tel. Fax : (Testing Facility) : 020 - 2681 9961, 020 - 2681 9962 E-mail : iitoxiology@gmail.com

Date: 17-August-2022

## CERTIFICATE

This is to certify that MR. NEERAJ PURANBAHADUR BHANDARI studying in B.Pharm. (Final Year) from JAYAWANTRAO SAWANT COLLEGE OF PHARMACY AND RESEARCH, HADAPSAR has successfully completed Technical Internship in our organization during the period from 11.07.2022 to 11.08.2022. The training covered, the basic knowledge about the design and layout of the organization and few of the instruments.

We wish him a bright future in his career.

For Indian Institute of Toxicology.

  
Mr. V.M. Bhide  
Test Facility Management





## DECLARATION

As required by the University regulations, I wish to state that, the information incorporated in the report on industrial/hospital training carried out by me at

Omkar Hospital, Malkapur

during period from 11/01/23 to 10/02/23. The report has not

been submitted for any other degree of this or any other university. This report has

been approved by the industry/hospital supervisor

Mr/Ms. Dr. Prashant Mane

Name and Roll No. of student: Pratik Ramakant Khaiche  
Roll no. 37

Certified by:



(Industry/hospital supervisor))

Date: 10/02/23 **Dr. Prashant A. Mane**  
MBBS., D.(Ortho)  
R.No.2010103054

Place: Malkapur