

प्रयास

2021-22

माँ वीणा पर विश्वास, विश्वास प्रयास तक ।
लेखनी की चाह रहेगी, अंतिम साँस तक ॥



**TECHNOCRATS INSTITUTE
OF TECHNOLOGY-PHARMACY**











"LIFE and TIME are the world's best Teachers. Life teaches us to make good use of TIME and TIME teaches us the value of LIFE."



Oath of a Pharmacist

I promise to devote myself to a lifetime of service to others through the profession of pharmacy. In fulfilling this vow:

-  I will consider the welfare of humanity and relief of suffering my primary concerns.
-  I will promote inclusion, embrace diversity, and advocate for justice to advance health equity.
-  I will apply my knowledge, experience, and skills to the best of my ability to assure optimal outcomes for all patients.
-  I will respect and protect all personal and health information entrusted to me.
-  I will accept the responsibility to improve my professional knowledge, expertise, and self-awareness.
-  I will hold myself and my colleagues to the highest principles of our profession's moral, ethical and legal conduct.
-  I will embrace and advocate changes that improve patient care.
-  I will utilize my knowledge, skills, experiences, and values to prepare the next generation of pharmacists.

I take these vows voluntarily with the full realization of the responsibility with which I am entrusted by the public.

Pharmacy as Career



**TECHNOCRATS INSTITUTE
OF TECHNOLOGY-PHARMACY**

Technocrats Group Campus, BHEL, Bhopal- 462021 MP, India Ph. No.- 2805101, 2751693, 2713736
E-mail : technocrats.pharmacy@gmail.com | website : www.titpharmacy.net

Vision of Institution

To grow as an institute of excellence for Pharmacy Education and Research and to serve the humanity by sowing the seeds of intellectual, cultural, ethical, and humane sensitivities in the students to develop a scientific temper, and to promote professional and technological expertise.

Mission of Institution

M 1: To inculcate ethical, moral, cultural and professional values in students.

M 2: To provide state of art infrastructure facilities to the staff and students so as to enable them to learn latest technological advancements.

M 3: State of art learning of professionalism by the faculty and students.

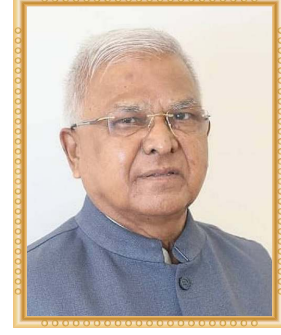
M 4: To produce well learned, devoted and proficient pharmacists.

M 5: To make the students competent to meet the professional challenges of future.

M 6: To develop entrepreneurship qualities and abilities in the students.



राजभवन
भोपाल- 462052



श्री मंगूभाई छगनभाई पटेल
राज्यपाल

Message

मुझे यह जानकर प्रासन्नता हो रही है कि टेक्नोक्रेट्स इंस्टीट्यूट ऑफ टेक्नोलॉजी-फार्मेसी भोपाल द्वारा वार्षिक पत्रिका “प्रयास -2021-22” का प्रकाशन किया जा रहा है।

शिक्षण संस्थाओं द्वारा पत्रिका का प्रकाशन विद्यार्थियों के लिए विचारों व भावों को अभिव्यक्त करने का सशक्त माध्यम है। इस प्रकार की पत्रिकाएं विद्यार्थियों को निखारने में सहायक होती है। मुझे आशा है कि पत्रिका में देशप्रेम और चरित्र निर्माण जैसे विभिन्न पहलुओं से संबंधित पठनीय सामग्री का समावेश किया जायेगा जिससे देश में ज़िम्मेदार युवा पीढ़ी का निर्माण सुनिश्चित हो सकेगा।

शुभकामनाएं।

मंगूभाई चहगनभाई पटेल
(मंगुभाई पटेल)



शिवराज सिंह चौहान
मुख्यमंत्री

Message

प्रसन्नता का विषय है कि टेक्नोक्रेड्स इंस्टीट्यूट ऑफ टेक्नोलॉजी-फार्मैसी भोपाल द्वारा वार्षिक पत्रिका “प्रयास - 2021-22” का प्रकाशन किया जा रहा है।

तकनीकी शिक्षा प्राप्त कर रहे विद्यार्थियों की सृजनात्मक अभिव्यक्ति के लिये पत्रिका का प्रकाशन एक सराहनीय प्रयास है। साहित्य, संस्कृति और भाषा के ज्ञान के साथ-साथ यांत्रिकी वातावरण को सरस व समरस बनाने में भी इस तरह की पत्रिकाओं का महत्वपूर्ण योगदान होता है।

आशा है, पत्रिका “प्रयास - 2021-22” महाविद्यालय परिवार के विचारों की संवाहक बनकर उपयोगी व महत्वपूर्ण दस्तावेज बनेगी।

हार्दिक शुभकामनाओं सहित।

शिवराज सिंह चौहान



Message



Smt. Yashodhara Raje Scindia
Minister of Technical Education M.P.

I am delighted to learn that Technocrats Institute of Technology-Pharmacy Bhopal is publishing its college magazine “PRAYAS 2021-22”.

I appreciate the efforts and hope this will create healthy as well as innovative atmosphere among the institution’s beneficiaries, especially the youth joining the educational field.

This reputed institution has done a commendable job by imparting quality education in the field of Technical Education. By doing this it has greatly helped the youth of the state to catch up with time and excel in their respective fields.

With all my warm greeting I wish them all good luck and send my congratulations to the Management and the editorial team.

Smt. Yashodhara Raje Scindia
Minister of Technical Education M.P.



प्रो. (डॉ.) वीरेन्द्र कुमार
संचालक

Message

अत्यंत हर्ष का विषय है कि टेक्नोक्रेट्स इंस्टीट्यूट ऑफ टेक्नोलॉजी-फार्मैसी भोपाल द्वारा वार्षिक पत्रिका “प्रयास-2021-22” का प्रकाशन किया जा रहा है।

संस्था की पत्रिका का प्रकाशन विद्यार्थियों की बहुमुखी प्रतिभा को आगे लाकर पहचानने और उनके सम्पूर्ण व्यक्तित्व विकास के लिये आवश्यक है।

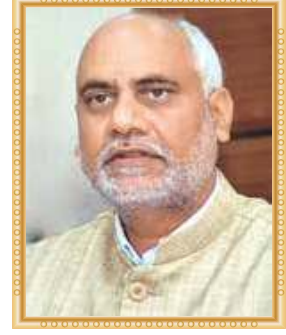
पत्रिका में ही उस महाविद्यालय के कार्यकलापों, छात्र-छात्राओं एवं शिक्षकों की प्रतिभाओं, उनका बौद्धिक स्तर एवं आदर्शों का प्रतिबिम्ब झलकता है।

मुझे पूर्ण विश्वास है कि आपका यह प्रयास अपने उद्देश्यों में पूर्ण रूप से सफल रहेगा एवं भावी पीढ़ी के लिये पथ प्रदर्शक का कार्य करेगा।

प्रो. (डॉ.) वीरेन्द्र कुमार



Message



Prof. Sunil Kumar
Vice-Chancellor

मुझे यह जानकर प्रसन्नता हुई कि टेक्नोक्रेट्स इंस्टीट्यूट ऑफ टेक्नोलॉजी-फार्मैसी भोपाल द्वारा वार्षिक महाविद्यालय पत्रिका “प्रयास-2021-22” का प्रकाशन किया जा रहा है।

महाविद्यालयीन पत्रिका किसी भी संस्था के लिये दर्पण की तरह होती हैं। मैं आशा करता हूं कि वार्षिक पत्रिका संस्था की शैक्षणिक उपलब्धियों को रेखांकित करने एवं छात्रों को सांस्कृतिक एवं साहित्यिक एवं अन्य शैक्षणेत्तर गतिविधियों में अपनी प्रतिभा प्रदर्शन के लिए उपयुक्त मंच उपलब्ध कराएगी।

पत्रिका के सफल प्रकाशन के लिए सम्पादक मण्डल, शिक्षकगण एवं छात्र-छात्राओं मेरी अनेक शुभकामनाएं।

मैं आशा करता हूं कि संस्था निरन्तर उन्नति एवं प्रगति के पथ पर अग्रसर होगी एवं तकनीकी शिक्षा के क्षेत्र में देश, प्रदेश एवं समाज को अपना योगदान देती रहेगी।

(प्रो. सुनील कुमार)



Chairperson
TIT Group of Institutions

Message

Obviously, I am feeling an immense pleasure to orate that our college is going to publish a yearly magazine “PRAYAS 2021-22”, which does not only bestow academic excellence but also highlights overall multidimensional and moralistic developments of the college.

This magazine also throws light on the personality, working capacity and achievements of students, faculties and managements.

No doubt, I am again very much obliged to mention that the students and faculty-members gave good and moralizing articles for publication in this magazine.

In nutshell, I am of course, very much thankful to all the members, who taught the students very nicely, who gave their a highly remarkable contribution. I again wish them for their bright future and happy life.

Chairperson
TIT Group of Institutions

Message



Vice Chairman
TIT Group of Institutions

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A handwritten signature in black ink, appearing to read 'S. S. S.', with a stylized flourish at the end.

Vice Chairman



Managing Director
TIT Group of Institutions

Message

Indeed it is a matter of great pleasure that Technocrats Institute of Technology-Pharmacy is going to publish its annual institutional magazine “PRAYAS 2021-22”.

Furthermore, I am really very sure that this college magazine will provide a platform to the students to sharpen their writing skills by strengthening academic activities of college.

I extend my best compliments, hearty blessings to faculty members, staff members and rising sun of the nation i.e. students for their bright future and happy life. I also hope that they will strive for the creation of academic and professional excellence in the coming years.

In the end, I am feeling much pleasure to extend my warm greetings and wishes to all the faculties. Students and other staff members who gave their unique contribution for successful release of their annual magazine

A handwritten signature in black ink, appearing to be 'Shruti', written above a horizontal line.

Managing Director

Message



Dr. Anurag Choubey
Director Administration

I congratulate the team of students and teachers whose precious efforts have made this edition of “PRAYAS 2021-22” accessible to us. It gives me immense pleasure to experience the warmth of this literary tradition in resonance with the glorious past of the institution. Rhyming with the change that is the law of nature, the magazine portrays the trajectory of transformation achieved in different spheres. I feel privileged to for hold the post of Director Administration and Director Academics of this reputed temple of learning that houses the stakeholders who thrive to maintain the dynamic spirit of learning and discovering through such endeavours. The Institute is firm in its resolve to providing support to academic events and publication of literary writings.

I wish “PRAYAS 2021-22” will scale greater heights with active participation of students and staff members of this institution.

A handwritten signature in blue ink, consisting of a stylized 'A' followed by a horizontal line and a small flourish.

Dr. Anurag Choubey
Director Administration

Message



Dr. B K Dubey
Director TIT-Pharmacy

It is a matter of great pride and satisfaction for Technocrats Institute of Technology, Bhopal (M. P.) to publish the 2020-21 issue of our annual magazine “PRAYAS 2021-22”. The institute has made tremendous progress in all the areas pertaining to co-curricular, extra-curricular development of the students and capacity building of the staff. I am sure that this issue of our annual magazine will send a positive signal to the staff, students and the people who are involved as well as interested in the technical education and technology-based activities. A magazine is like a mirror which reflects the clear picture of all sorts of activities undertaken by an institution and develops appropriate writing skills among students in particular and teaching faculty in general. I express my deep sense of gratitude to Dr. Deepak Basedia, HOD (Pharmacy) under whose guidance this magazine issue work has been undertaken and completed within the stipulated time. I also express my heartfelt congratulations to all the faculties, staff members and students of the editorial board for the arduous task executed most effectively. I am hopeful that this creative effort shall not only develop the taste for reading among the students but also develop a sense of belongingness to the institution as well.

A handwritten signature in blue ink, appearing to read 'B K Dubey', with a stylized flourish at the end.

Dr. B K Dubey

HOD *Message*



Dr. Deepak Basedia
HOD TIT-Pharmacy

Pharmacy is one of the most trusted and noble profession and remains one of the most fascinating fields in the sciences. During the last few years due to phenomenal growth and advancement of science and technology, concept of pharmacy has drastically changed in recent times and today pharmacist is also closely involved as one of the most important member, working hand in glove in majority of the health delivery system along with pharmaceutical industry.

Technocrats Institute of Technology-Pharmacy Bhopal, established in the year 2002 approved and recognized by AICTE and PCI, Govt. of India. The institute offers courses in B. Pharm and M. Pharm. The college has well-equipped laboratories and excellent infrastructure to make the students acquire knowledge that would help them to face the competitive world. Students are provided the best quality education through traditional and modern teaching methods. National Seminars, Workshops and Industrial visits are conducted in the college at regular intervals which enable the students to gain new updated knowledge. The institute also focuses on personality development, confidence building, research exposure and enhancement of communication skills, apart from various cultural events and activities.

The role of a college magazine is therefore vital in promoting what an institution offers. It brings out into the open things hitherto unrevealed. It brings to light the names of the unsung heroes and their mighty deeds. I am happy that there is a dedicated team of staff and students who have brought out the “PRAYAS 2021-22”, annual magazine of our college. I congratulate them for their successful venture and pray that each year brings more and more triumph to “PRAYAS 2020-21”.

A handwritten signature in blue ink, consisting of a stylized 'D' followed by a horizontal line.

Dr. Deepak Basedia

Message



Ms. Najmus Sehar

Chief Editor
Technocrats Institute of
Technology-Pharmacy

Being the Editor In charge of college magazine “PRAYAS 2021-22”, it gives me great pleasure to bring to you this issue. The annual Magazine PRAYAS, is designed to present to its readers the year’s various activities by the students and faculty in academic, cocurricular, extra-curricular as well as research & developments that have gone by, the magazine also showcases the talents of our faculty members and students. With a sense of pride and satisfaction I would like to say that with the active support of the management, faculty and students. The “PRAYAS 2021-22” is published which is a truly literary & creative document of the talents of our faculty, technical staff and students. The Magazine committee is composed of the student editor, sub editors & staff advisors. The varieties of articles in research field give us a sense of pride that our students and teachers possess creative potential and original thinking in ample measures. Each article is entertaining, interesting and absorbing. Along with those interesting general articles, stories, poems of the magazine will develop confidence, motivation, zencouragement, passion, perfection and dedication in readers. It also contained more about pharmaceuticals, research which sharpen their strength in areas like academic, non-academics of staff and students. I congratulate the editorial team for making “PRAYAS 2021-22”, innovative and inspiring.

Wish you all best luck

A handwritten signature in blue ink, consisting of a stylized 'N' followed by a horizontal line.

Ms. Najmus Sehar

Program Educational Objectives (PEOs) for B.Pharm Course

PEO 1: To inculcate quality pharmacy education and training through innovative Teaching Learning Process.

PEO 2: To promote professionalism, team spirit, social and ethical commitment with effective interpersonal communication skills to boost leadership role assisting improvement in healthcare sector.

PEO 3: To enhance Industry-Institute-Interaction for industry oriented education and research, which will overcome healthcare problems of the society.

PEO 4: To adapt and implement best practices in the profession by enrichment of knowledge and skills in research and critical thinking.

PEO 5: To generate potential knowledge pools with interpersonal and collaborative skills to identify, assess and formulate problems and execute the solution in closely related pharmaceutical industries and to nurture striving desire in students for higher education and career growth.

PROGRAM OUTCOMES

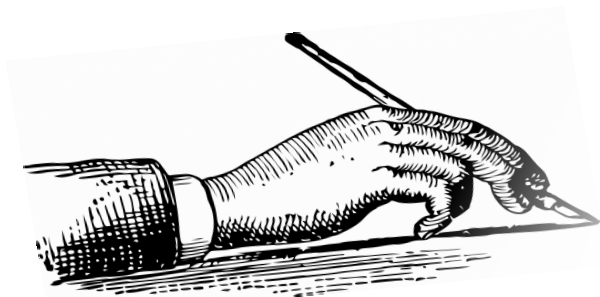
- 1. Pharmacy Knowledge:** Possess knowledge and comprehension of the core and basic knowledge associated with the profession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.
- 2. Planning Abilities:** Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.
- 3. Problem analysis:** Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.
- 4. Modern tool usage:** Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.
- 5. Leadership skills:** Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well-being.
- 6. Professional Identity:** Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).
- 7. Pharmaceutical Ethics:** Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behavior that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.
- 8. Communication:** Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.
- 9. The Pharmacist and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.
- 10. Environment and sustainability:** Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 11. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-assess and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

Editorial Board



Student Editorial Board





Editorial Board

Advisory Board

Dr. B.K. Dubey
Dr. Deepak Basadia
Dr. Mukesh Patel
Prof. Bhushan Korde

Student Editorial Board

Ananya Dubey
Abhinandan
Manu Pawar
Joodev
Sakshi
Ruby

Chief Editor

Prof. Najmus Sehar

Editor

Prof. Anandi Lal
Prof. Kiran Satnami
Prof. Sandra Gautam
Prof. Pushpa Simayia

Oath of a Pharmacist

At this time, I vow to devote my professional life to the service of all humankind through the profession of pharmacy.

I will consider the welfare of humanity and relief of human suffering my primary concerns.

I will apply my knowledge, experience, and skills to the best of my ability to assure optimal drug therapy outcomes for the patients I serve.

I will keep abreast of developments and maintain professional competency in my profession of pharmacy.

I will maintain the highest principles of moral, ethical, and legal conduct.

I will embrace and advocate change in the profession of pharmacy that improves patient care.

I take these vows voluntarily with the full realization of the responsibility with which I am entrusted by the public.

Code of Ethics for Pharmacists

Preamble

Pharmacists are health professionals who assist individuals in making the best use of medications. This Code, prepared and supported by pharmacists, is intended to state publicly the principles that form the fundamental basis of the roles and responsibilities of pharmacists. These principles, based on moral obligations and virtues, are established to guide pharmacists in relationships with patients, health professionals, and society.

Principles

I. *A pharmacist respects the covenantal relationship between the patient and pharmacist.*

Interpretation: Considering the patient-pharmacist relationship as a covenant means that a pharmacist has moral obligations in response to the gift of trust received from society. In return for this gift, a pharmacist promises to help individuals achieve optimum benefit from their medications, to be committed to their welfare, and to maintain their trust.

II. *A pharmacist promotes the good of every patient in a caring, compassionate, and confidential manner.*

Interpretation: A pharmacist places concern for the well-being of the patient at the center of professional practice. In doing so, a pharmacist considers needs stated by the patient as well as those defined by health science. A pharmacist is dedicated to protecting the dignity of the patient. With a caring attitude and a compassionate spirit, a pharmacist focuses on serving the patient in a private and confidential manner.

III. *A pharmacist respects the autonomy and dignity of each patient.*

Interpretation: A pharmacist promotes the right of self-determination and recognizes individual self-worth by encouraging patients to participate in decisions about their health. A pharmacist communicates with patients in terms that are understandable. In all cases, a pharmacist respects personal and cultural differences among patients.

IV. *A pharmacist acts with honesty and integrity in professional relationships.*

Interpretation: A pharmacist has a duty to tell the truth and to act with conviction of conscience. A pharmacist

avoids discriminatory practices, behavior or work conditions that impair professional judgment, and actions that compromise dedication to the best interests of patients.

V. *A pharmacist maintains professional competence.*

Interpretation: A pharmacist has a duty to maintain knowledge and abilities as new medications, devices, and technologies become available and as health information advances.

VI. *A pharmacist respects the values and abilities of colleagues and other health professionals.*

Interpretation: When appropriate, a pharmacist asks for the consultation of colleagues or other health professionals or refers the patient. A pharmacist acknowledges that colleagues and other health professionals may differ in the beliefs and values they apply to the care of the patient.

VII. *A pharmacist serves individual, community, and societal needs.*

Interpretation: The primary obligation of a pharmacist is to individual patients. However, the obligations of a pharmacist may at times extend beyond the individual to the community and society. In these situations, the pharmacist recognizes the responsibilities that accompany these obligations and acts accordingly.

VIII. *A pharmacist seeks justice in the distribution of health resources.*

Interpretation: When health resources are allocated, a pharmacist is fair and equitable, balancing the needs of patients and society.

The endorsement of this document was reviewed in 2017 by the Council on Pharmacy Practice and by the Board of Directors and was found to still be appropriate.

Copyright American Pharmacists Association. Adopted by the membership of the American Pharmaceutical Association on October 27, 1994. Endorsed by the American Society of Health-System Pharmacists House of Delegates on June 3, 1996 (ASHP Policy 9607). Proceedings of the 47th annual session of the ASHP House of Delegates. *Am J Health-Syst Pharm.* 1996; 53:1805. ASHP Reports.

Toppers

FINAL YEAR



Neeraj Kumar Pal
9 CGPA



Ritesh Bharte
8.91 CGPA



Shailesh Pal
8.83 CGPA

THIRD YEAR



Nikita Chandrabhan
9.0 CGPA



Aniket Singh
8.9 CGPA



Anamika Tiwari
8.69 CGPA

SECOND YEAR



Shristi Soni
9.50 CGPA



Piyush Raj
9.23 CGPA



Kumar Gaurav
8.82 CGPA

FIRST YEAR



Anuska Dwivedi
9.6 CGPA



Yashwant Kumar
9.41 CGPA



Sudhansu Ranjan
9.4 CGPA

Congratulation **GPAT QUALIFIERS**

Congratulations to all **GPAT**
selected Pharmacy students
for their supercilious achievement!!!

A moment of immense pride for TIT-Pharmacy! Congratulations to all Titians for their outstanding performance in GPAT 2021. Wishing you the very best for your future endeavors!





MASTER OF YOUR MIND - SUBCONSCIOUS MIND

“Do you know that our subconscious mind is a million times more powerful than the conscious mind”? In Fact, we operate on this Subconscious mind for 95 to 99% of our life. A homeostatic impulse, a component of our subconscious mind, controls processes, including body temperature, heart rate, and respiration. It is the consciousness that is just below our awareness level. The unconscious mind is a real thing. It is really real and fundamental to whom we are. Long-term memory, emotions, feelings, habitual patterns and interpersonal relationships, addictions, involuntary body functions, developmental stage, creativity, and spiritual connection are all concerns of the subconscious mind. The ERTAS and limbic system are where most of the brain's "id" (or "system unconscious") processes are performed, whereas the basal ganglia and cerebellum are where most of the "repressed" (or "system unconscious") activities are performed.

Learning how to synchronize a new set of complex activities is most likely challenging, such as riding a bike or memorizing steps to dance precisely. These movements develop to require less conscious awareness as we gain proficiency until everything starts to occur easily. Amazingly, one of the most potent internal forces that influence human behavior, the subconscious mind, is the one controlling all of these involuntary actions (also commonly referred to as the nonconscious mind). But many individuals are unaware that our brain controls our mental state in the same way it influences our physical condition. Every time we attempt anything new, we experience a subliminal tug back toward our familiar surroundings. We will feel anxious and unpleasant just by considering doing something different from what we are used to.

In addition to repeatedly providing us with ideas and impulses that imitate and replicate the things we have done in the past, our mind is continuously filtering and drawing our attention to information and stimuli that confirms our preexisting beliefs. Our five senses are actively taking in information at all times when we are awake.

Similar to how a computer saves data, these experiences are preserved as memories. But most of this knowledge may be retained without thinking about it. 95–99% of what we do each day is probably forgotten. But because hypnosis can revive long forgotten memories, we know that these ideas and pictures are still in your mind. Although we may not always be aware of it, our subconscious mind is constantly active. Our subconscious mind, also known as the unconscious mind, houses all the information stored from every experience we have ever had. This is why we occasionally experience *deja vu*. Studies in psychology on how the brain functions show that our experiences, particularly those from early childhood, impact how we think and behave. Even though you don't recall most of your life events, unconscious memories shape 90 to 95% of your behavior. Fundamentally, the new research reveals a much more active, independent, and intentional subconscious brain than was previously believed. The unconscious is perfectly capable of running the program it chooses to run. Goals, whether to eat, mate, or guzzle down an iced latte, are like neural software programs that can only be performed one at a time in the brain. Our dreams are related to the subconscious mind. Since the beginning, scientists, philosophers, and theologians have investigated plans and developed various hypotheses and interpretations.

According to Sigmund Freud, dreams are a window into our unconscious and a manifestation of our deepest needs, anxieties, and repressed childhood experiences or obsessions, most of which are sexual in character. Even Freud acknowledged that "sometimes even a cigar is only a cigar." Currently, it is largely accepted in neuroscience that dreams are completely physiological and represent the brain's attempt to make sense of random ideas and images from recent daytime experiences or memories that race through the mind while we sleep. Our subconscious mind uses images, sentiments, and metaphors to communicate, emphasizing emotion over reason or logic. The intricate brain system that links the subconscious and the conscious mind is known as intuition. It is a brain function that doesn't involve analytical thought. While many of us believe we can multitask, it is not easy to maintain conscious attention on two things at once. When we try to focus on two things at once, the brain shifts its attention from one to the other before returning to the first. We are never able to focus on two things at once at the same time. Similarly, it is physically impossible to be angry and peaceful at the same moment or to be pleased and sad, but humans can quickly



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change between emotional states. However, our subconscious is a natural multitasker.

Our subconscious is always awake. It is constantly working. It manages each of your essential processes. Before you go to bed, forgive everyone and yourself. This will hasten the healing process. Suggestion rules the subconscious mind; it accepts all recommendations, does not fight with you, and carries out your requests. Keep your imagination going beyond what you think is possible since your subconscious mind doesn't mind it.



By: Dr S K Yadav



GRADUATE PHARMACY APTITUDE TEST (GPAT)

Graduate Pharmacy Aptitude Test (GPAT) is a national level entrance examination, conducted by the National Testing Agency. Till 2018, it was conducted by All India Council for Technical Education (AICTE) as per the rules of Ministry of Human Resource Development (MHRD), Government of India. The Test will now be conducted by the NTA. GPAT is examination to take admissions to M. Pharm after completion of B. Pharm. NIPERJEE is the examination to take admission to M.S (Pharm), GPAT is must to take admission in any course in NIPER. Also, students require a good rank in Gpat as Nipерjee is abandoned by government of India. Qualifying the GPAT is a condition for appearing NIPER-JEE which is entrance exam to take admission to postgraduate courses in seven National Institutes of Pharmaceutical Education and Research (NIPERs) across India. Students who qualify the exam will be eligible for admissions to AICTE approved colleges that accepting GPAT scores in India. It is the competitive exam due to the growing scope of the pharmacy field. Qualifying GPAT Examination is not an easy task unless you have prepared well. The examination is for total 500 marks consisting of 125 questions.

There are two types of Scholarships for GPAT Qualified students—

1.AICTE PG Scholarship

2.CSIR's Junior Research Fellowship.

The main purpose of these scholarships is to motivate the students for higher studies and involve in research activities. Many of Students think that GPAT is only important to get admission in Pharm courses, have misperception about this as this is the National Examination have multiple benefits which are mention here.

- First of all students can get good institute according to their GPAT rank for masters and will be eligible for a monthly stipend of 12,400.
- Students will be eligible to apply to the institutes like ICT, BITS Pilani, NIPER, IIT BHU etc having NIRF ranking 1 all over India.
- If the students are research oriented, so they can take admission for Ph.D. on the basis of their GPAT score just after completion of PG.
- Different colleges wants good GPAT score to take admission in Ph.D. JRF - students can join for the project of "Pharmaceutical Sciences".
- Pharmacist – GPAT exam is not for entry into the job of "Pharmacist" but if the students qualified GPAT, then the chances of qualifying the "Pharmacist" examination will be more.
- Increases the chances for good job opportunities, because preference given to students who score well in Gpat examination.
- This test also facilitates institutions to select suitable candidates for admission into M. Pharm program.

By: **Dr Deepak Basedia**



MICROPLASTICS

Tiny plastic fragments are found in every environment on Earth, even those with no human inhabitants.

What are Micro plastics?

Plastic is a solid, synthetic material made from oil and gas or renewable organic material from plants. It is the third most abundant material after concrete and steel and is hugely important for society due to its uses in many different sectors, including medicine, construction, food packaging, electronics and transport. Micro plastics are microscopic pieces of plastic debris. You need the help of a microscope to see most of them, although the formal definition includes plastic particles up to half a centimeter – big enough to see with the naked eye.

Where do Microplastics come from?

Microplastics shed from a plastic litter due to sunlight exposure, which causes the material to weaken over time and fragment. They'll also come from plastic items because of wear and tear. Microplastics move throughout the environment via both human and natural processes. For example, the microplastic fibres released from your clothes during laundering are rinsed down the drain where between 72 to 94 per cent is captured in sewage sludge during wastewater treatment. This sludge is then applied to the land as an important soil conditioner. Winds can mobilize the soil in dry conditions, potentially blowing the microplastics away. This can also happen to micro plastics polluting roads, cities and the surface of the oceans, distributing them far and wide. The complexity of Micro plastics sources and journey as they cycle through the Earth's environments means they are incredibly challenging for both scientists and environmental managers to study.

How widespread are Micro plastics?

Over the last few decades, the evidence on the extent of micro plastic pollution has been growing. Originally perceived as a marine issue, with an estimated 15 to 51 trillion micro plastic particles floating on the ocean's surface, scientists have recently discovered they also contaminate rivers, soils and air. They have even found their way into some of the most remote regions, including the poles, the equator, the deep ocean floor and even Mount Everest.

Are humans ingesting Micro plastics and if so at what rate?

The short answer is: yes, with the discovery of micro plastics in human stool confirming this. Micro plastics have been found in a range of food and drinks, mostly bottled and tap water, shellfish and salt. They've also been measured in indoor dust, which may settle on our food and drinks. Current high-end estimates of the rate of ingestion range from 52,000 to billions of micro plastics per year.

What can we do to limit our exposure to Micro plastics?

Ultimately, minimizing everyone's exposure requires a global effort to limit the micro plastic release to the environment. Things you could do to contribute to this include avoiding single-use plastic while shopping (and bringing your own bag); reducing your plastic waste; washing your clothes less often and using a laundry bag to catch some of the fibers which go down the drain. When in doubt, I try to stick by the '5 Rs': refuse, reduce, reuse, repurpose and finally, recycle. Whatever the solution, it's important that it's better for both the planet and people.



HIGH TECH CAPSULE-TO DECREASE THE USE OF INJECTIONS

High Tech Capsule is a high potential pill to minimize the use of injections extensively - for injecting insulin and monoclonal antibodies. An MIT-led research team has developed a capsule containing drugs essentially to replace insulin injections for type 1 diabetes patients who need to take injections by themselves daily. The capsule containing insulin is about the size of a blueberry, which contains a small needle made up of compressed insulin, which is injected after the capsule reaches the stomach to release insulin. While testing on animals, researchers showed that the capsule can deliver enough insulin to tackle type 1 diabetes as compared to insulin injections and can be used to deliver other protein drugs.

Let us have a look at the distinctive features of the capsule:- Capability to Self-Orient:-The researchers got the idea of self-orientation and the predictable landing pattern of the capsule from the tortoise known as leopard tortoise. This tortoise can roll onto its back because of its high, steep dome shell that allows it to right itself in a correct position.

Leopard Tortoise

The capsule is just made up of one needle, allowing it to inject the drug into the interior of the stomach, then it is broken down by stomach acids. Nearly 100% compressed, freeze-dried insulin is present on the tip of the needle. Within the capsule, the needle is attached and held in place by a spring disk which is made up of sugar. When the person swallows the capsule, the water in the stomach dissolves the sugar disk, releasing the spring which then allows the needle to inject the drug i.e., insulin into the interior of the stomach wall. Because our stomach wall does not have many pain receptors, the patient would not feel the pain produced by the injection. To ensure that the drug is injected into the stomach wall only, scientists have designed their systems in such away that no matter how the capsule lands into the stomach, it will be able to orient itself correctly, so that the tip of the needle is in contact with the stomach lining and injects the drug there itself. Once the tip of the needle is injected into the stomach wall, it will release the drug and the insulin released dissolves at a rate that can be controlled by the researchers as the capsule is prepared. In one study conducted, it took about half an hour for the insulin to be fully released into the bloodstream. Patient compliant:-When the tests were conducted on pigs, it showed that the 300 micrograms of insulin can be administered successfully. More recently, it was shown that the dose could be increased up to 5 mg, which is comparable and like the dose that the patient with type 1 diabetes needs to inject. When the capsule is swallowed and once the needle injects insulin and releases its content, the capsule can then harmlessly pass through the digestive tract. The researchers found no adverse effects associated neither with the capsule nor with the shaft of the needle as they both are made up of biodegradable polymer and stainless-steel components. The MIT along with Novo Nordisk is working, developing and optimizing the technology to produce desired capsules. The researchers at MIT and Novo Nordisk believe that this type of drug delivery system can be used not only for insulin but also for any protein drug that normally needs to be injected, such as immunosuppressant's to treat rheumatoid arthritis and inflammatory bowel disease. The aim of the researchers at MIT and Novo Nordisk is to make drug administration easy for the patients and especially for those medications which need to be injected. This type of emerging research in the field of medicine is very beneficial to the patients and serves to be more patient compliant.



BLOOD-BASED ATN BIOMARKERS OF ALZHEIMER'S DISEASE

Introduction: In a recent study on Alzheimer's, a neurodegenerative disorder, the evaluation of specific blood proteins including Amyloid-beta ("A β "), Neurofibrillary tangles (Tau, "T") and Neurodegeneration ("N") are emerging as candidate Biomarkers for AD. An invasive CSF sampling for protein measurement and/or imaging by Positron emission tomography (PET) is done. ATN biomarkers, specifically, phosphorylated-tau[ptau] and neurofilament light polypeptide [NfL] can indicate AD progression through a possible less-invasive blood-based test. Though, their relatively constant changes might have unclear stage-specific patterns during AD progression. In this study, a Proximity Extension Assay (PEA) technology to evaluate protein profiles of AD plasma was adopted. Specifically, in Hong Kong Chinese AD cohort consisting 106 patients of AD and 74 healthy controls (HCs), they quantified 1160 plasma proteins and revealed 429 proteins that dysregulated in AD patients. Further identified 19-protein biomarkers panel and validated its high accuracy for classifying AD and associated endophenotypes in an independent cohort. This showed dysregulation of certain plasma biomarker proteins in specific stages of AD. Thus, they determined a comprehensive AD plasma proteome profile and established a high-performance plasma biomarker panel setting a foundation of developing a Blood-based test for AD screening and staging.

Methodology:

- i. The discovery cohort comprising 180 Hong Kong Chinese people ≥ 60 years old and 97 of validation cohort underwent a medical, clinical, cognitive and functional assessment by Montreal Cognitive Assessment (MoCA) and neuroimaging using MRI. Only AD patients were involved in study. Ages, sex, years of education, medical history of CV disorders and WBC count were recorded.
- ii. The A β 42/40 ratio, tau, p-tau 181 and NfLs levels were measured in 350 μ L plasma. The levels of 1160 proteins were quantified in 20 μ L plasma using PEA technology. Selected assayed proteins were validated using ELISA.
- iii. AD-associated alterations in plasma proteome were determined by relation between normal protein levels and AD phenotypes using linear regression model (relation between one /more predictor variables) involving age, sex, CVD and population factors.
- iv. Top AD-associated plasma protein in a cluster (formed by Hierarchical agglomerative clustering) was named as "hub" protein.
- v. Gene basics analysis of candidate proteins and an enrichment analysis (i.e. enriched or depleted genes or proteins) of cell types in peripheral blood system was performed with reference to their RNA transcript
- vi. Only individuals in whom the 19-protein biomarker panel and plasma ATN biomarkers were detected were included in further analyses.
- vii. For AD classification using multiple candidate factors, three models were established on the basis of (1) Age, Sex and plasma levels of A β , tau and NfL; (2) the 19-protein biomarker panel; (3) A β , tau and NfL plus 19-protein biomarker panel.

AD classification accuracy between two models was done by DeLong method (comparing two Area under curves to provide confidence interval and standard errors). The significance of relation between AD-associated endophenotypes and candidate plasma proteins as well as AD severity determined by 19-protein model was performed by Linear regression analysis.



Results and Discussion: The plasma A β , tau and NfL levels, collectively termed as plasma ATN biomarkers exhibited consistent alterations in blood of AD patients. Hub proteins in derived clusters represented the overall plasma proteome. Correlation analysis of the 19-Hub proteins with the plasma ATN biomarkers revealed that 10 hub proteins were correlated with the A β , tau and NfL levels, whereas the remaining 9 hub proteins were not correlated with any of them. In the discovery cohort, AD classification based on the plasma ATN biomarkers had a maximum accuracy of 87.35%. Moreover, Integrative model of three ADN biomarkers in 19 hub proteins did not improve the accuracy of AD classification. But it's consistent that 19-protein panel captures both ATN-dependent and ATN-independent changes in AD plasma accurately distinguishing AD patients from HCs and also reflect AD-associated endophenotypes. Significantly, plasma p-tau181 has emerged as a more accurate and specific blood biomarker of AD that indicates the progression of tau pathology in the brain. Tau pathology helped classify AD in terms of cognitive performance, brain region volumes and plasma biomarkers providing basis for developing a highly specific blood based diagnostic tool for AD. Certain plasma hub proteins are dysregulated on cognitive decline and revealed changes like, three hub proteins- NELL1, hK14 and CETN2 deregulated in early stages of AD and throughout disease progression. Plasma levels of LYN, PRKCQ and LIF-R altered in early and intermediate stages. KLK4 only deregulated in late-AD with severe cognitive deficits. Thus, it serves as a scale to provide biological explanation of AD staging.

Conclusion: The study has served a foundation for developing high performance blood-based test for AD screening and staging and also provided various protein targets for future therapeutic development.

By: Prof. Najmus Sehar

APPLICATION OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE MANAGEMENT

The health industry is an emerging and rapidly changing industry with a large amount of data generated every second. Manually scrutinizing and filtering data would necessitate a large number of workers and could result in human error. Such human error can be unpleasant and harmful in various ways, so a computer system or technology can help avoid such situations. AI and its application in multiple industries cannot be ignored because it plays an important role in such sectors. For example, in the health industry, AI plays an important role in minimizing errors, drug discovery, precision medicine, and various diseases that can be traced back to multiple factors. In the current context, an attempt is made to list the number of AI applications that will benefit the health industry.

INTRODUCTION: Artificial Intelligence is a subfield of computer science that deals with problem-solving using symbolic programming. The primary goal of Artificial Intelligence is to recognize useful information and process problems. Many branches of statistical and machine learning, pattern recognition, clustering, and similarity-based methods are included in Artificial Intelligence.

THE NEW AGE OF HEALTHCARE: Big Data and Machine Learning are influencing almost every aspect of modern life, including entertainment, commerce, and healthcare. There is hope that the application of Artificial Intelligence will significantly improve all elements of healthcare. Algorithms are already outperforming radiologists in detecting malignant tumors and advising researchers on how to build cohorts for expensive clinical trials.

FUTURE OF ARTIFICIAL INTELLIGENCE: Artificial Intelligence (AI) can potentially positively impact doctors and patients in healthcare. As AI technologies advance, they will alter how doctors view their patients, reduce healthcare costs, and advance medical care in areas with limited access.

LIMITATIONS: In many cases, the term "Artificial Intelligence" may be misleading because it refers to far more advanced technology than today. At its best, current technology - which includes a variety of Machine Learning methods - can achieve narrow Artificial Intelligence (ANI) in various fields. However, this is happening at an unbelievable rate. These artificially intelligent programs outperform humans in specific tasks. To avoid overhyping the technology, current AI's medical limitations must also be acknowledged.



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AI IN THE COVID-19 PANDEMIC: The medical industry is looking for new technologies to monitor and control the spread of the COVID-19 (Coronavirus) pandemic in this global health crisis. AI is one such technology that can easily track the spread, identify high-risk patients, and aid in real time infection control.

EARLY INFECTION DETECTION AND DIAGNOSIS: It can quickly analyze unusual symptoms and other red flags, alerting patients and healthcare authorities. AI uses medical imaging technologies such as CT and MRI scans of human body parts.

MONITORING THE TREATMENT: A neural network can also be developed to extract the visual features of this disease. This would help in proper monitoring and treatment for those affected by the virus, as well as predicts its spread. Contact tracing of the individuals: AI can also predict the future course of this disease and its likely reappearance.

DEVELOPMENT OF DRUGS AND VACCINES: By analyzing the available data on COVID-19, AI is used for drug research. It is useful in the design and development of drug delivery systems. This technology accelerates drug testing in real-time, whereas standard testing takes a long time.

REDUCING THE WORKLOAD OF HEALTHCARE WORKERS: Artificial intelligence (AI) is being used to help reduce the workload of healthcare workers. It aids in early diagnosis and treatment by utilizing digital approaches and decision science, and it provides the best training to students and doctors regarding this new disease called COVID-19.

CONCLUSION: AI has a significant effect on the health industry and pharmaceutical industries. It has opened the channels of possible outcomes and scrutinizing the data has become easy for the government. All the health schemes and parameters of good health can be easily traced back through loads of data.

By: **Shailendra Tiwari**

EFFECT OF DRUGS

Overdose of histamine causes histaminic shock,
Nifedipine, verapamil cause calcium channel block.
Caffeine is CNS stimulant, which stimulate our brain,
Antipyretic and analgesic cure fever and relief our pain.
Sedatives and hypotonics cause CNS depression
Heroin, cocaine decrease motion and increase our
tension.
Levodopa, sinemet give anti-parkinsonism effect
For treatment of psychosis, tranquilizers are perfect.
Angina pectoris creates pain over the chest
As an anti-angina drug nitroglycerin is best.
Atenolol, propranolol can decrease hypertension
Atropine, morphine used in pre-anesthetic medication.
Salbutamol used to treat asthma and heart block
Adrenaline reduces hypoglycemic and anaphylactic
shock.
For treatment of nephrosis a good diuretic is thiazide
Congestive heart failure is treated by Na-nitroprussides.
Sing this poem once in day
Memorize all the drugs in easier way.....

By: **Anjali**
4th Year

AWAKE

DON'T BE SHY! LET THEM KNOW HOW GREAT
YOU ARE.
THIS MAGAZINE IS REFLECTION OF STUDENT
GRAVITY AND HARD WORK
IT'S A GREAT PLACE TO PITCH IN THE TIME
THOUGHT OF THEIR ARTISTIC MINDS.
IT'S A CHANCE TO SHOWCASE YOUR POWER
OF PEN
TO THE WORLD AND MAKE A DIFFERENCE TO
THEIR HEART.
ARE YOU ONE OF THEM TO MAKE
DIFFERENCE??
TEAM AWAKE

By: **Badal Kushwah**
2nd Year



अंत का सागर

मांस का ढेर लेके आये थे,
हड्डियों का ढेर चोड़कर जाना है।
एक दिन रंग भरी दुनिया में बेरंग हो जाना है
क्योंकि जो आया है उसका जाना सुनिश्चित है,
मृत्यु ही सत्य है, मृत्यु ही निश्चित है।

कल नहीं तो आज हम सबको मरना है,
मुक्तिदायनी के लहरों में बहना है।
क्योंकि जो आया है उसका जाना सुनिश्चित है,
मृत्यु ही सत्य है, मृत्यु ही निश्चित है।

जो जाने की इच्छा रखते हैं,
जीवन के मुल्यों को नहीं समझते हैं।
उनकी इच्छा तो एक दिन पूरी हो ही जायेगी
क्योंकि जो आया है उसका जाना सुनिश्चित है,
मृत्यु ही सत्य है, मृत्यु ही निश्चित है।

उम्र के ढलने की प्रयोगिता में हर किसी को जीत मिल ही जाएगी....
क्योंकि जो आया है उसका जाना सुनिश्चित है,
मृत्यु ही सत्य है, मृत्यु ही निश्चित है।

तो चिंता में जीने से बेहतर जीवन बेहतर बनाएं,
थोड़ी दौलत के साथ थोड़ी खुशियाँ भी कमाएं।
क्योंकि जो आया है उसका जाना सुनिश्चित है,
मृत्यु ही सत्य है, मृत्यु ही निश्चित है।

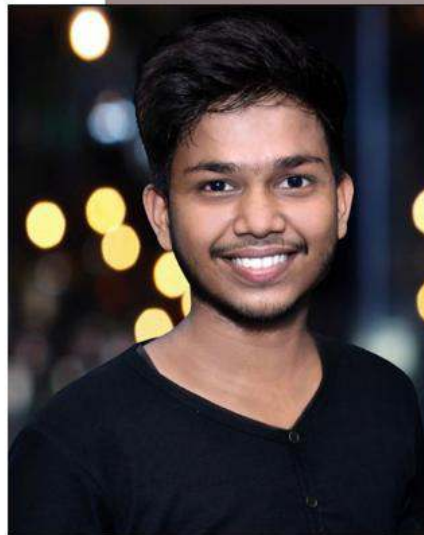
जीवन के सबसे बड़े सत्य से क्यों इतना डरना,
राजा हो या प्रजा, सबको है मरना ।
क्योंकि जो आया है उसका जाना सुनिश्चित है,
मृत्यु ही सत्य है, मृत्यु ही निश्चित है।

मृत्यु तो सत्य है ,
और सत्य के विजय को कोई रोक नहीं सकता ।
विधि के विधान से कोई वच नहीं सकता ...
क्योंकि जो आया है उसका जाना सुनिश्चित है,
मृत्यु ही सत्य है, मृत्यु ही निश्चित है।



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CAREER IN PHARMACY



"Pharmacy is an amalgamation of medical sciences and chemical sciences. Traditionally, pharmacist is responsible for dispensing medicines and drugs prescribed by doctors and medical practitioners to patients. Pharmacist also provide information to patients about their medications and their use. But, the scope of pharmacists is much more than selling medicines. Pharmacists have started getting career opportunities traditional beyond the Community and hospital pharmacy jobs. Fields of pharmaceutical and clinical research are becoming more popular, lucrative and challenging career options in the field of pharmacy."

@Shudhanshu Ranjan

COURSE AND SPECIALIZATION-

Students who have completed 12th with Physics, Chemistry, Biology Mathematics (PCB / PCM) can take admission to 4-year Bachelor Pharmacy (B. Pharm) degree. This can be followed by a 2-year post graduation course in Master of Pharmacy (M.Pharm). the M.Pharm level, you can specialize in Pharmaceutical Chemistry, Pharmacognosy, Biochemistry Pharmaceutical Assurance, and Pharmacology.

Another option is the 6-year integrated Pharma-D course (equivalent to B.Pharm M.Pharm) which can be pursued after 12th Science (PCB/PCM). Remember, to get admission to all these courses, you have Health to give the entrance exams mostly conducted at the state level.

Personality Traits:

You should possess a scientific aptitude with a liking for life science and medicine. Good interpersonal skills, active listening skills and counselling skills are also important to succeed in this field. Otherskills necessary are attention to detail, a good memory of various products, patience to deal with rude customers, sense of responsibility and analytical skills. If you want to start your own pharmacy store, then leadership skills and business acumen are also important. To be successful as a medical representative, strong communication skills and convincing attitude are required.

SHUDHANSHURANJAN

Technocrates Institute of Technology-Pharmacy

Alumni Speak

1

Sneha Phulanbrikar



I, would say my journey was like a 'Flavorful PIZZA' baked in an oven named 'TIT-PHARAMCY'. A pizza where the pizza base was 'knowledge'; and the pizza sauce was our principle, teachers – giving the flavors to whole base. Toppings were my classmates, my seniors, my juniors each one carried their own essence. Cheese! Yes, cheese was the blend of our exams, practical's, lectures, cultural, sports, competitions and all the official/unofficial trips indeed, the cheese brought all the toppings, sauce and base together to make it that one 'Lipsmacking Pizza', a pizza that we all shared and became what we are today. While, penning down my thoughts I get some flashes and foremost flash is the 'Pharmacist Oath' that we took in our first year. It created a sense of sincerity, gratitude, respect and proud towards our profession. Next, is all the management we did as Student Council, all the group studies, singing, dancing, acting, competing and last but not the least – all the efforts and creativity we brought up in planning and executing all the themed celebrations (Harry Potter theme, Pirate theme). I see each and every one smiling, giggling and snatching tiffin. Note for juniors – "Make your own pizza guys, you all are different toppings. Create your own flavour and grow to be the best versions of yourselves and trust me guys, the 'TIT-PHARAMCY oven' will bake the Pizza just right!"

2

Pankaj Suryanwanshi



TIT-PHARAMCY is an institute that is passionate about building up students' knowledge and exposure to the field of pharmacy. As said by John Dewy "Education is not preparation for life but life itself". My time at TIT-PHARAMCY has shaped me into a better pharma professional while helping me recognize my true potential. It gave me the space and resources to build my confidence and strengths while better understanding the dynamic field of pharma. Our teaching and non-teaching staff have showered me with constant guidance and support. Thus, as my journey from a student to a B. Pharm graduate has come to a close, I can say that my time with this institute has been fulfilling one!



RESEARCH AND PAPERS

1. PATENT- 2021-2022

2021-2022 **Dr. Deepak Kumar Basedia** 202221015019 A Microwave Mediated Synthesis and Cytotoxic Evaluation of Novel Substituted Derivatives.

PAPERS PUBLICATIONS

1. **Neelmani Chauhan** Anti -microbial Evaluation of twigs of *Butea monosperma* Lam. Drugs and cell therapies in hematology Turkish Online Journal of Qualitative Inquiry 2021
2. **Dr. Mukesh Kumar Patel** Development of polyherbal Gel of *Alhagi camelorum*, *Scaphium affine*, *Barringtonia acutangula* for treatment of skin disease International Journal of Pharmaceutical Research Feb, 2021
3. **Dr. Mukesh Kumar Patel** Development and Characterization of Niosomal gel of aceclofenac for the treatment of Arthritis International Journal of Pharmaceutical Research 2021



I am specialist in medicine

I manufacture and research medicines

I am a regulator of the medicines and ensure its quality

I am counselor to the patients

I ensure safe and effective medicines

I am a Pharmacist: a healthcare professional

