

PHARMASPAK

2023-2024



Ponda Education Society's
Rajaram And Tarabai Bandekar
College of Pharmacy
Farmagudi, Ponda, Goa.

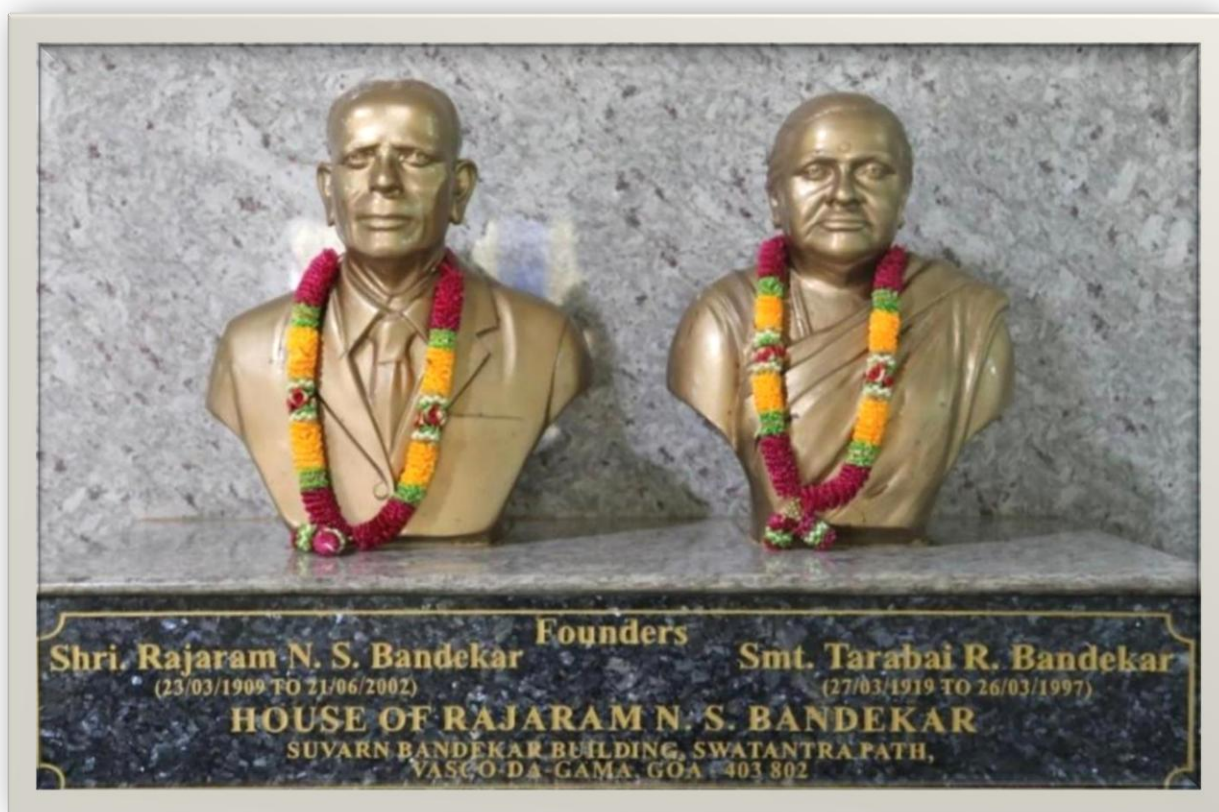
MANAGEMENT, STAFF AND STUDENTS OF
PONDA EDUCATION SOCIETY'S
RAJARAM AND TARABAI BANDEKAR COLLEGE
OF PHARMACY FARMAGUDI, GOA

WITH DEEP SENSE OF GRATITUDE TO OUR BENEFACTORS

LATE SHRI. RAJARAM BANDEKAR

AND

LATE SMT. TARABAI BANDEKAR



PHARMACIST'S OATH

I shall uphold the laws and standards governing my profession.

I shall strive to perfect and enlarge my knowledge to contribute to the advancement of pharmacy and public health.

I swear by the code of ethics of Pharmacy Council of India, in relation to the community and shall act as an integral part of health care team.

I shall follow the system which I consider best for pharmaceutical care and counselling of patients.

I shall endeavour to discover and manufacture drugs of quality To alleviate sufferings of humanity.

I shall hold in confidence the knowledge gained about the patients in connection with my professional practice and never divulge unless compelled to do so by the law.

I shall associate with organizations having their objectives for Betterment of the profession of Pharmacy and make Contribution to carry out the work of those organizations.

While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of pharmacy respected by all, at all times!

Should I trespass and violate this oath, may the reverse be my Lot!

VISION

To be a premier institution imparting quality education in the field of Pharmacy

MISSION

To create an environment that will produce competent pharmacy Professionals, catering to the needs of the academia, research, Regulators, industry and society.

To enhance creativity and innovation in pharmacy education through advanced technical updates that propel the students towards professional excellence.

To inspire and sustain the students to be sensitive towards Social needs and contribute to the wellbeing of society.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Upon completion of the program, the students will be:

PEO1: Competent and proficient in all aspects of drug manufacturing and its usage, including practical knowledge towards fulfilment of their career goals.

PEO2: Professionals with adequate pharmacy skills and will make a valuable contribution towards pharmacy practice, research and Innovations.

PEO3: Able to serve the community and society with high Standards of professional ethics and in the best interest of patients and the community.

GOVERNING COUNCIL OF PONDA EDUCATION SOCIETY

SHRI. RAVI S. NAIK

President, Ponda Education Society

Hon'ble Minister for Agriculture, Handicrafts and Civil Supplies, Goa State

SHRI. DATTA NAIK

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Executive Member

MRS. URMILA LOTLIKAR

Executive Member

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Executive Member

SHRI. HRISHIKESH P. DHARVATKER

Executive Member

PONDA EDUCATION SOCIETY'S
RAJARAM AND TARABAI BANDEKAR COLLEGE OF
PHARMACY

*(Approved by Pharmacy Council of India, New Delhi, Directorate of Technical Education, Goa and
Affiliated to Goa University)*

Department of Pharmaceutical Chemistry:

Dr. S.N. Mamle Desai: - *Professor and Principal*

Dr. Celina Nazareth: - *Associate Professor*

Dr. Leena A. Sawaikar: - *Assistant Professor*

Mrs. Soniya Phadte: - *Assistant Professor*

Ms. Chaitali Tendulkar: - *Assistant Professor*

Ms. Ashwini Jadhav: - *Assistant Professor*

Ms. Prachita Gauns Desai: - *Assistant Professor*

Ms. Sahili Naik: - *Assistant Professor*

Department of Pharmaceutics:

Prof. A. M. Godbole: - *Professor and HOD*

Dr. Shilpa P. Bhilegaonkar: - *Assistant Professor*

Dr. Suwarna S. Bobde: - *Assistant Professor*

Dr. Swati M. Keny: - *Assistant Professor*

Mrs. Saumya Vernekar: - *Assistant Professor*

Mr. Pankaj S. Gajare: - *Assistant Professor*

Dr. Pearl Dighe: - *Assistant Professor*

Ms. Arti Pednekar: - *Assistant Professor*

Ms. Kamakshi R.S. Kunkolienker: - *Assistant Professor*

Department of Pharmacology:

Dr. Mangirish Deshpande: - *Associate Professor*

Mr. Bheemanagauda Biradar: - *Assistant Professor*

Ms. Vishwani Naik: - *Assistant Professor*

Department of Pharmacognosy:

Dr. Nilambari Gurav: - *Assistant Professor*

Ms Gauri Pai Angle: - *Assistant Professor*

Department of Sports:

Mr. Tejas Salgaonkar: - *Director of P.E and Sports*

Ms. Supriya S Naik: - *Librarian*

Ms. Sarika Kerkar: - *LT Officer*

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Mrs. Darshana Naik: - *LDC*

Mrs. Nikita Naik: - *LDC*

Ms. Vedangi Dangui: - *LDC*

Mrs. Brigita R. Priolkar: - *Storekeeper*

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Mrs. Vaishali Fadate Gaonkar

Mrs. Ujwal Patkar

Mrs. Kirti Shirodkar

Ms. Ameya Naik

Ms. Atita Khandeparkar

Mrs. Gayatri Naroji

MENIAL STAFF:

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Mr. Deepak Naik

Mrs. Divya Gaude

Mrs. Amita Priolkar

Mrs. Siya Gaude

Mrs. Disha Naik

Mr. Sunil Marganache

Mr. Devendra Naik

Mr. Prakash Kurtikar

Mr. Siddesh Tari

Mr. Santosh Naik

Mr. Sandeep Naik

Mr. Gokuldas Gaonkar

Mr. Sandesh Ramnathkar

Mrs. Preeti Naik

Mrs. Sunanada Patil

Mr. Keshav Satarkar

Mr. Maruti Manik

Mr. Suryakant Gawde

Mr. Ulhas Naik

Student Council (2023-24)

Committee Members:

Mast. Mohammed Fardeen Khan ~ *General Secretary*

Miss Richa Rajesh Ghodge ~ *Cultural secretary*

Mast. Atharv Dnyaneshwar Kavitkar ~ *Sports Secretary*

Miss. Sanjana Moorthi Hosahalli ~ *Magazine Secretary*

Miss. Titiksha Dilip Korgaonkar ~ *Ladies Representative*

Class Representatives:

Miss. Euma Da Silva ~ *First Year B.Pharm.*

Miss Dhanashree Yogesh Deshpande ~ *Second Year B.Pharm.*

Mast. Saloni Patil ~ *Third Year B.Pharm.*

Mast Vedant Mahadev Naik ~ *Fourth Year B.Pharm*

Miss. Simren Maryanne Fernanades ~ *First Year M.Pharm (Pharmaceutics)*

Miss. Tanushka Sangodkar ~ *Second Year M.Pharm (Pharmaceutics)*

Miss Sanjali Prabhudesai ~ *First Year M.Pharm (Pharmaceutical Chemistry)*

Mast. Mulla Ebrahim ~ *Second Year M.Pharm (Pharmaceutical Chemistry)*



President's Message



Dear Readers, "The secret of change is to focus all of your energy, not on fighting the old, but on building the new." - Socrates It is a matter of great pride for me to pen down the message for the annual college magazine 'PharmaSpark 2023-2024'. Our institution always strives for excellence in imparting education to the students. Our students have once again brought laurels to the college by their excellent performance in academics as well as co-curricular and extra-curricular activities. This year we are exhibiting our positivity and resilience through this electronic platform. I am extremely proud of the progress and dedication our students have shown throughout this pre and post lockdown period. The college magazine is a medium for the students to express their creativity and originality. The magazine content reflects the wonderful creative and artistic work of our students. I extend my warm wishes to the Principal, Staff, and Students in their pursuit of excellence. We are grateful to all our sponsors and well-wishers for their support.

Shri.Ravi S. Naik, M.L.A

President Ponda Education Society, Ponda- Goa

The Principal's Report



The gift of knowledge is the highest gift in the world - Swami Vivekananda

P.E.S's Rajaram and Tarabai Bandekar College of Pharmacy for the past several years is imparting quality education and spreading the knowledge of medicine and well-being to the students in particular and society at large. It was one more glorious year for all of us at P.E.S's Rajaram and Tarabai Bandekar College of Pharmacy, with merit ranks declared by Goa University. My sincere thanks to Shri Ravi S. Naik Sir and all the members of the Management of Ponda Education Society, colleagues (both teaching and non teaching), students and their parents for this achievement. Two of our students have qualified GPAT 2024. The year 2023-2024 was all round performance by our students winning several medals and trophies in sports and cultural activities. Our Institute under Ponda Education Society has prospered in all aspects in a short period of time and Pharma Spark 2023-2024 is a showpiece of talents of our students in the literary department. I would also extend my gratitude to magazine committee, editorial board for their meticulous planning and designing of this magazine. Happy Reading.....

Dr. S.N Mamle Desai

Principal,

P.E.S's Rajaram and Tarabai Bandekar College of Pharmacy

Magazine Secretary's Report

Being a magazine secretary for the college was probably a very important opportunity for me. As I have proceeded with this college life, this chance will always be showcased prominently as a milestone of the journey.

In that too, curating this magazine was a big journey in itself. From gathering the achievements to making everything look pitch perfect, I would always be grateful for all the learnings I have gathered today on completion of this Project. Yes, being the main editor, it's definitely a project very close to my heart.

We produce this magazine as an one stop place of all the yearly achievements of the college as whole. We believe this magazine will provide us the benchmark for continued improvement and overall development of the College.

This magazine would like stand as a good source of guidance for faculty and coming batches of students In choosing activities of their choice in their future for building their Careers and a proficient college life in the premises of PES.

Furthermore, I am extremely grateful for the support and efforts the Editorial team has given in. this magazine would have been nothing without these efforts.

" *Pharmaspark*" wants to be an astonishing Mirror of all the achievements of our college, reflecting the active behaviour and the success gained at different stages throughout the academic year of *2023-24*. This wouldn't have been possible without the timely advice of our guide Dr. Nilambari Gurav , who took a keen effort to help us out at places.

Finally, Heartiest congratulations, to all the achievers and a special thanks to the contributors of this magazine who came forward to present their content for the magazine. Thank you for all the help and co-operation you have provided us for making this magazine a flourished edition.

From now, **PHARMASPARK 202-24** becomes yours.

May we all be always strengthened to give the utmost light out as the pharmasparks.

Miss. Sanjana Moorthi Hosahalli

General Secretary's Report

Serving as the General Secretary of our college for the 2023-2024 academic year was not just an honour, but a privilege. The official inauguration of the student council upheld our college's rich tradition and set the stage for a year filled with growth and camaraderie.

As we commenced the year, a series of cultural and sports events unfolded, commencing with the vibrant celebration of "World Pharmacy Week." This week-long festivity showcased the diverse talents of our students and underscored our commitment to holistic development.

Renowned Indian author, Rabindranath Tagore, once said, "The highest education is that which does not merely give us information but makes our life in harmony with all existence." In this spirit, our annual cultural and sports extravaganza, "Radicals," provided a platform for students to showcase their talents both on and off the stage. It was a celebration of unity, diversity, and excellence.

In September, we paid homage to our cultural heritage by honouring Navratri with the joyous festivities of "DANDIYA " This celebration served as a reminder of the importance of embracing our traditions while fostering inclusivity within our college community. With the arrival of December, the spirit of Christmas enveloped our campus, spreading joy and goodwill among students and staff alike. It was a time of reflection, gratitude, and celebration.

Our college came together to commemorate its annual day, a momentous occasion to recognize the remarkable accomplishments of our students. It was a testament to their hard work, dedication, and resilience throughout the year. Beyond our campus borders, our college participated in various inter-college sports events, achieving notable success and upholding our reputation as a centre of excellence.

In closing, I extend my heartfelt appreciation to our principal, Dr. S.N Mamle Desai Sir, whose unwavering support and guidance have been instrumental in our journey. As Indian author APJ Abdul Kalam once said, "Excellence is a continuous process, and not an accident." I am also grateful to our teachers, non-teaching staff, council members, friends, classmates, and the entire college community for their unwavering support and camaraderie. Together, we have embraced excellence and forged memories that will last a lifetime.

Mast. Mohammed Fardeen Khan

Cultural Secretary's Report

It was an honor to serve as the cultural secretary for the academic year 2023-2024. Our team's main goal was to help students showcase their talents and participate in various cultural activities. This year has truly been eventful and memorable.

Bringing all students together was always a priority for me. It was a great experience learning from each other, understanding different perspectives, and receiving constant support. From the moment I became the cultural secretary, I knew this year would be special. I started planning to ensure everyone could enjoy and cherish it.

Our journey began with the celebration of "World Pharmacy Day." We organized quiz competitions, presentations, Rangoli contests, video making, and pharmaceutical model competitions to boost students' confidence and skills.

Next up was the highly anticipated "Radicals 2024" event, where we saw fantastic participation and support from all classes. It was heartwarming to witness everyone enthusiastically taking part and cheering each other on. Every day ended with a DJ evening to help participants relax and enjoy the moment. We also had an open stage event on the last day for students to showcase their talents. Thankfully, the fourth-year students emerged victorious.

Our annual day was a grand affair with esteemed guest

Each class delivered astounding performances, followed by the prize distribution ceremony for B.Pharm and M.Pharm gold medalists, as well as the announcement of the student of the year 2024.

Under the guidance of our Cultural department led by Ms. Saumya Vernekar, Ms. Gauri Pai Angle, and Ms. Chaitali Tendulkar, we organized a vibrant Navratri celebration. The day included Dandiya and best dress competitions, along with spot prizes and a Garba house to add to the festivities.

I am deeply grateful to our respected Principal, Dr. S. N Mamle Dessai, for his constant guidance. A big thank you to all the committee members and everyone who supported us. As Jeanette Coron said, "Everybody goes through difficult times, but it is those who push through those difficult times who will eventually become successful in life. Don't give up, because this too shall pass." I want to express heartfelt thanks to my fellow B.Pharm and M.Pharm students for their constant support. It was challenging, but with everyone's help, our team made this year truly historic.

Miss Richa Rajesh Ghodge

Sport Secretary's Report

As the Sports Secretary, I am pleased to present the annual sports report of our college for the year 2023-24. First off all, it was exhilarating moment for me when I got selected as the Sport's secretary from our class. I was super excited to play this role as I have been very active in sports since my school days. Physical Education and sports play an integral part of the total Education system. Both these spheres have thought me alott and have always motivated me to do better in every field possible.

Coming to the achievements of the college, we participated in various sports events in the year

The yearly interclasses sports event of the college, RANSANGRAM was organised. Opening Ceremony was done by the hand's of our Principal Dr. Mamle Desai sir Accompanied by Mr. Pankaj Gajare and Mr. B. Biradar. Opening ceremony started with Traditional Pooja of ground followed with the Declaration of Annual Sports Meet-2024 and motivational Speech.All the students were ready for the battle and to win the title. Students from all the classes showed a showering participation and made sure that the event was successful beyond our imgination. The overall Winners of the Event were the class of Fourth Year B.Pharm. All the games were well coordinated and conducted under the supervision of Mr. Tejas Salgaonkar Sir, Physical Education Department.

At last I would specially like to thank our Principal Sir Dr. S.N.Mamle Dessai sir for his constant support. I would specially like to thank Mr. Tejas Salgaonkar our sports sir for his constant support, Guidance and efforts. I would like to thank the students council and My class T.Y.B.Pharm. for their support.

Mast. Atharv Dnyaneshwar Kavitkar

Rank Holders of 2023-2024

First Year B.Pharm Rank Holders

1



Mansi Ravindra
Yadav

2



Kirti Nanda
Gaude

3



Twisha Vaman
Pai Bhatiker

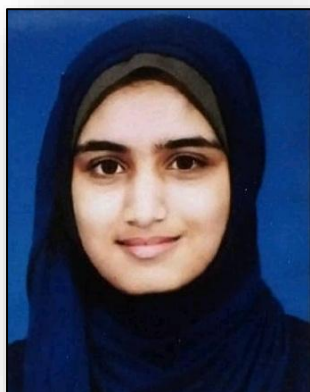
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Pooja Digamber
Naik

Second Year B.Pharm.

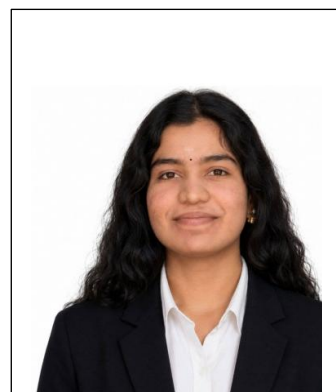
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**Zahra Aimen Beig**

1

**Dhanashri Deshpande**

2

**S. Divya**

3

**Dattaraj Dhond**

3

**Urja Dharvatkar**

Third Year B.Pharm:

1

**Allecra Rodrugues**

2

**Yuvraj Singh**

3

**Misam Baig**

Final Year B.Pharm:

1

**Sanjyot Shirodkar**

2

**Sailee Pradeep naik**

3

**Upasna Kumbhar**

First Year M.Pharm. (Pharmaceutics):**1****Hrutika Datta Naik****2****Krushiya Govind Gaonker****3****Samiksha Prabhu****3****Sachi Alias Ramaa Shankar
Ramaa Shankar Sinai
Kolwalker**

First Year M.Pharm. (Pharmaceutical Chemistry):**1****Kartik Kishor
Borker****2****Sanjana Subhash
Naik****3****Mayur Prashant
Gaude**

Second Year M.Pharm (Pharmaceutics):

1

**Greato Dias**

1

**Rakshata Dessai**

1

**Ashaya Dessai Fadte**

2

**Akshata Chopdekar**

2

**Siya Suryakant
Haldanker**

2

**Shikha Vijay kelvekar**

3



Samiksha Nityanand Naik

Second Year M.Pharm (Pharmaceutical Chemistry):

1



Rakshanda Sawant

2



Rohishma Naik

3



Shweta Narvenkar

GPAT Qualifiers for 2023-24



Sanjyot Shirodkar



Neeket Ramakant Gaunkar

Winners of Radicals 2023-24

DAY 1

BAZAAR DAY

1st place - - 4th year (*Piyush, Pawan, Anish*)

2nd place - - MPharm. (*Shweta, Nutisha, Tejaswini*)

3rd place - - 4th year (*Shruti, Mahishma, Vidhya*)

FACE PAINTING

1st place - - 2nd year

2nd place - - 1st year

3rd place - - 4th year

NAIL PAINTING

1st place - - 3rd year (*Doris and Bhargavi*)

2nd place - - 3rd year (*Dikshita and Amisha*)

3rd place - - 1st year (*Waluscha and Rizella*)

SLOW BIKING

1st place - - MPharm (*Rudresh kamat*)

2nd place - - 4th year (*Pratham*)

3rd place - - 3rd year (*Aniruddh Naik*)

MYSTICAL MELODIES

1st place-- 2nd year (*Shrusti*)

2nd place-- 2nd year (*Aman katkar*)

3rd place -- MPharm (*Rucha barve*)

SOLO DANCE

1st place -- (shared)

3rd year (*Aachal Shirodkar*)

1st year (*Dhanashree Deshpande*)

2nd place-- 3rd year (*Vaibhavi Govekar*)

3rd place -- 4th year (*Manjushri Raut*)

UNICORN TANK

1st place -- 4th year

2nd place-- 3rd year

3rd place -- 1st year

BOTANORTISTRY

1st place -- 4th year(*Narayan and Karthik*)

DAY 2

T-SHIRT PAINTING

1st place -- 2nd year (*Sejal Bhartu, Sanija*)

2nd place-- 3rd year (*Dikshita, Soniya*)

3rd place -- shared

1st year (*Swapnam, Jesiya*)

4th year (*Samantha, Smitha*)

MAKE UP AND HAIRSTYLES

1st place -- 2nd year (*Muskan Sheikh, Shery*)

2nd place -- 4th year (*Manjushri, Mahishma*)

3rd place -- 2nd year (*Natasha, Sana*)

TREASURE HUNT

1st place -- 4th year

2nd place -- 1st year

3rd place-- 2nd year

MIME ACT

1st place -- 4th year

DEBATE

1st place -- 2nd year

2nd place -- 1st year

3rd place -- MPharm

DUMB CHARADES

1st place -- 1st year

2nd place -- 4th year

3rd place -- MPharm

NEWSPAPER DRESS

1st place -- 3rd year

2nd place -- 1st year

3rd place -- 4th year

ROCK BAND

1st place -- 4th year

STEP UP AND DANCE

1st place -- 4th year

2nd place -- 2nd year

MEHENDI

1st place -- 2nd year (*Sana , Mehek*)

2nd place -- 1st year (*Tapasvi , Sindhuja*)

3rd place -- 4th year (*Smita , Samanta*)

Winners Of Ransangram 2023-24

Outdoor Events:

Boys Football - *Second Year B.Pharm*

Girls Stricking - *Second Year B.Pharm*

Tennikoit Girls - *First year B.Pharm*

Boy's Vollyball - *Mpharm*

Boy's Shotput - *Mpharm*

Girl's Shotput – *Mpharm*

Boy's Tug of war - *Mpharm*

Girl's Tug Of War - *Third year*

Track Events

100m Boy's Running - *Harish Aldonkar (Fourth year)*

100 m Girl's Running - *Julekha (M.Pharm)*

200m Boy's Running - *Second year B.Pharm*

200m Girl's Running – *Second Year B.Pharm*

100m Boy's and Girl's Relay - *First year B.Pharm*

Indoor Events:

Boy's Singles Badminton – *Chinar Kanekar (First Year)*

Girl's Singles Badminton - *Manjushree Raut (Fourth Year)*

Mixed Double's Badminton – *Fourth Year*

Boy's Chess – *Vedant Naik (Second Year)*

Chess Girl's – *Third Year*

Boy's Carrom single – *Ruchil Jalora (Fourth Year)*

Girl's Carrom singles – *Julekha (M.Pharm)*

Boy's Carrom doubles – *Rudresh Dessai and Ketan Gad (M.Pharm)*

Boy's Table tennis singles – *Piyush Chakrobarty (Fourth Year)*

Girl's Table Tennis singles – *Third Year*

Mixed Double's Table Tennis - *Third year*

Tea Tale from Assam

Tea is second only to water as the world's most popular drink. Total production has grown to around 7.1 million tonnes a year globally, with the industry estimated value to reach \$132 billion by 2030. Its carbon footprint totals 25 grams of emissions per comforting cup, mainly the energy used to boil water. In many countries, tonnes tea is wasted each year simply because too much was made or it went cold before we could drink it. Tea plants face climate risks from flood, drought and heat, as well as from increases in disease and pest attack, such as the already highly damaging tea mosquito bug. The use of agroforestry, soil management and carefully planned drainage can all help increase resilience to severe weather impacts. New tea varieties also offer the chance to increase disease resistance.

Moving cultivation to new areas is likely to be the only option in some areas as the climate envelop for tea shifts further in the coming decades. The crumbled leaves that infuse the daily cup of billions are still largely handpicked just as they have been for centuries. Harvesting machines might be faster, but these also tend to crush the leaves and can damage the precious bushes. Instead, just the top bud and two leaves on new shoots are plucked. This regular plucking keeps the bushes in a perpetual state of neat new growth and ensures they are always at a convenient table-top height for harvesting.

Tea bushes are a long-term investment, with many being over fifty years old and so needing generations of care and attention to ensure they produce the very best quality leaves. Like much of our daily food and drink, tea tends to clock up some very long distances between plantation and shopping trolley. Though China is now the world's biggest producer much of it is still produced by the tea-growing giant that is India, with regions like Darjeeling and Assam being world-famous for the quantity and quality of their tea. A neat box of aromatic tea bags contains a blend grown in Assam—a high plateau in the north of India that is responsible for over half of all Indian production. In terms of its carbon footprint, the growing and processing (sorting, drying and the oxidation that turns leaves from green to black) are the main sources of emissions before our tea reaches us. Despite long travel distances, transport emissions are relatively low with most being exported by sea using large shipping containers. Once in our cupboards and caddies though, making the tea with boiling water becomes the biggest component of the overall carbon footprint, weighing in at around two-thirds of the total 25 grams of emissions per comforting cup (equivalent to 12 kilograms per kilogram of dry tea).

One helpful trend that should cut the carbon footprint of each cup of tea is the move towards more renewable energy. As more comes on line, so the electricity that powers our many millions of kettles is becoming lower carbon. Even more important at the household level is cutting waste. Our insatiable thirst for the liquid gold that is tea dates back millennia. Threats to the world's precious supplies have been enough to spark protests, blockades and even wars in the past. In the eighteenth century, Britain's own efforts to secure imports by fixing the market resulted in American colonists showing their anger by throwing a shipment of tea into Boston harbour. This Boston Tea Party signaled the demise of British rule in America.

Today, tea is second only to water as the world's most popular drink. The days of a British empire wielding its power to manipulate global tea markets may be long gone, but in the lush fields of northern India climate change is laying a heavy hand on the supplies of millions.

Assam is well known for the full-bodied flavour of its tea, with the neatly clipped swathes of bushes that cover its rich floodplains usually luxuriating in a tropical mix of monsoon rains and temperatures. In recent years though, things have become more unpredictable, and much more dangerous. The extreme weather events also signaled dangerous times for the livelihoods of Assam's estimated 1.2 million tea workers.

The tea gardens of Assam thrive on the plentiful rains that sweep over them each summer. With more extreme wet spells though, a triple threat emerges. First, heavy downpours erode soils and strip away precious nutrients. Bushes in low lying and poorly drained soils may find their roots become waterlogged. If this goes on too long then the roots begin to rot and survival of the whole plant is put at risk. Tea bushes that escape water-logging then must run the gauntlet of the pests and diseases that can thrive in the wetter conditions.

Tea plays host to an army of pests and diseases that between them can attack every part of the plant. Diseases like Violet Root Rot are a common risk in heavy wet soils, while the airborne Blister Blight fungus attacks young shoots and can spread rapidly in moist, foggy conditions. Tea plant pests are broadly divided into those that chew on the plants and those that suck on them. Of most concern to tea farmers across India and globally is one of the suckers: the Tea Mosquito bug. Both the nymphs and the adults of the Tea Mosquito draw sap from newly emerged buds and shoots. The affected areas first develop irregular brown spots; the leaves then begin

to dry and curl up. Eventually the multiple sucking injuries turn the new-growth leaves black and unusable. In bad cases the growth of the whole plant is stunted. These bugs were first recorded in Java in the nineteenth century, then in India in 1968, and have since become a menace to tea growers all over the world. They have been blamed for large yield losses in Africa, and have destroyed entire tea harvests in some parts of Asia.

In India, eight out of ten tea-growing areas are now infected, causing up to half of the annual crop to be lost. As temperature and rainfall patterns change, the spread and impact of this sucking pest are set to change too. Higher rainfall, humidity and temperature have all been linked to faster bug population growth and an increase in attacks on the leaves of tea. Likewise, more rainy days in North Eastern India seem to allow the bugs to extend their attacks much later into the growing season. The powerful (and now banned) pesticide DDT was apparently effective at controlling the initial outbreaks that hit India in the late twentieth century. Since then, a variety of other insecticides have been tried, but the bugs have become resistant to many and their march through the tea gardens of Assam has continued.

It's the increasingly unpredictable nature of rainfall that is posing the most immediate concerns for Assam's tea growers. While during one part of the growing season they must cope with the deluges and water-logging problems of too much rain, at other times it might be severe drought that threatens the tea gardens. Such impacts of climate change are likely to be felt everywhere through major price hikes. If the kind of losses predicted for major tea-growing nations, such as India and Sri Lanka, are realized, then the cost of tea is set to increase by more than a quarter over the next decade.

For the plants it's a combination of higher temperatures with longer drought periods that can pose a particular risk. Under such conditions they conserve their diminishing water supplies by shutting down photosynthesis, and so growth. Hot conditions mean that soils dry out much more quickly and, with longer periods with no rain, the whole year's tea harvest can be knocked back. Total rainfall in Assam by 2050 is not expected to change all that much, but its timing and the potential for more intense periods of both drought and flood pose a very real risk. To tackle heavy rainfall, and the water-logging of plant roots that can then occur, soil drainage can be a very effective, with optimal drainage estimated to boost yields by up to 50 per cent. Achieving such optimal drainage is difficult. Too much, and the tea plants might well stay safer in heavy monsoon rains, but will then be especially vulnerable to drought stress in the dry season. Mulching around plants and

incorporation of composts help to improve soil structure and boost water-holding capacity—a boon for nutrient retention and reduced water-logging, as well as drought resilience.

In some areas, cover crops serve the dual purpose of soil protector and compost source. These short-lived crops are often grown alongside young tea plants to suppress weeds. Many are legumes and so are also able to pull off the microbial root magic that is fixing nitrogen from the air. This then reduces the need for artificial fertilizers too. Once large enough, the cover crops become a nutrient-rich green manure that can then be incorporated back into soils. During the dry season the trees and their deep roots help to conserve soil moisture and protect the tea plants from extreme heat and scorching. The shade they cast improves the overall efficiency of tea growth, with their diffuse canopies also giving more protection from high winds and hailstorms. As a bonus, the steady fall of shade-tree twigs and leaves helps to boost the structure and organic matter content of the soils.

A team of Chinese researchers managed to sequence the entire tea genome—an impressive feat given the tea genome is an especially large one made up of around 37,000 different genes. The work helped identify exactly where traits like drought, heat, and pest resistance (as well as flavours) are derived from. For tea breeders, this genetic blueprint has huge potential to allow more climate change-resilient tea plants to be selected. It also opens opportunities for targeted genetic modification to enhance those particular plant traits best suited for a particular region and its projected climate. In Kenya, a new variety of purple tea has already been developed that is especially rich in antioxidants. These make it very valuable for use in health products and food preservation, and also more resistant to environmental stresses, pests and diseases.

Consumers are increasingly demanding tea that is free from all pesticide and herbicide residues, so tea growers are having to try and walk the tightrope between maintaining tea quality and keeping the tide of pests, diseases and weeds at bay. Tea plant clones help them to do this by providing plants selected for specific traits.

The very first tea clone was developed and used in India in 1949 (before then all tea in the world was grown from seed). The clones are grown from selected cuttings and so allow characteristics such as resistance to a certain disease or greater drought tolerance to be brought out. As more clones have been developed, so the

array of tea plants available to give resilience in different locations and conditions has expanded. By definition, clones are identical, so tea growers tend to use them within a wider mix of tea plant types. This reduces the risk of one severe weather event or disease wiping out the whole crop—the new clone plants might all be good at giving resistance to a certain disease, but that’s little comfort if they are then all destroyed by drought. Shade trees can improve carbon storage too. In the most severe hot and dry spells that are likely to beset Assam in coming years, shade trees and mulching may still not be enough. Here, the harvesting and reuse of rainwater can help to give tea growers that extra bit of protection. By creating reservoirs and ponds, farmers can capture more of the heavy monsoon downpours and then later use this same water to irrigate their plants and soils—applying any collected water in the early evening keeps the amounts lost to evaporation to a minimum and helps to bump up soil moisture levels when the plants are at their most thirsty.

As with any crop, relying on the success of just one type of tea growing in one particular place often increases the risk of failure of the whole harvest. Planting other crops with different harvest times and different vulnerabilities to drought, pests or floods can ensure that, if one harvest fails, there’s at least another to deliver some income.

In Assam, this kind of diversification is usually in the form of planting spice crops like black pepper alongside the tea gardens. Some of the more enterprising farmers have even taken to using their rainwater collection ponds to grow fish. The mud-loving Grass Carp is a favourite. These carp are native to Asia and are well adapted for the weed-filled warmth of Assam’s drainage ponds and reservoirs. They feed on submerged vegetation, and with good conditions, young fish can quickly grow to a harvest-able size. These fishy grazing machines can also help to prevent drainage ditches and shallow ponds becoming clogged with vegetation—one trial release of grass carp to weed-choked ponds in India reportedly cleared the afflicted ponds within a month. Its impressive ability to Hoover up plant material has made the grass carp a popular choice for fish-livestock farming. Here, manure from ducks, pigs or other livestock is deliberately added to ponds to accelerate plant growth, which in turn boosts the growth of the fish and yields a useful extra income.

A wider mix of what is grown on tea plantations (including in the ponds) can therefore give farmers more resilience as they face a future of more frequent and intense extreme weather events. To tackle the increasing threat of pest and disease attacks though, such as from the Tea Mosquito bug, diversification of the tea plants

themselves can be a powerful weapon in the climate-smart armoury. Where pesticides do still have to be used, the amounts can be limited by managing the tea gardens to keep pest numbers low and pre-empt their attacks. By more frequent plucking of leaves, more of the crop can be harvested before the pests get to the new shoots. Frequent plucking can also be directly targeted at the pests—removing the bugs from the plants before their numbers can increase to damaging levels. Using the natural enemies of tea pests has also become a successful ploy for many growers.

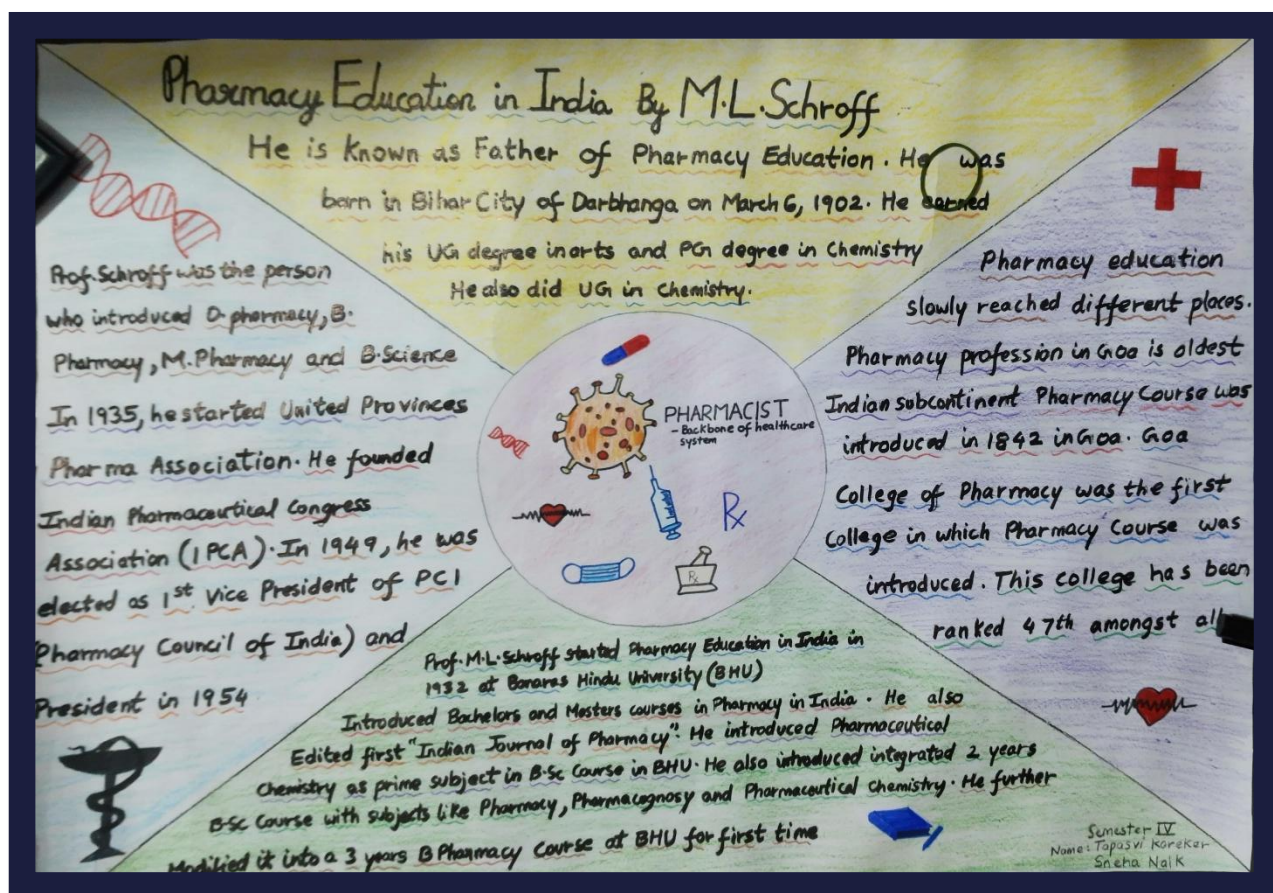
As climate change intensifies in Assam and around the world, so tea growers will need to make more and more use of a range of climate-smart practices. Universal access to the various climate-smart techniques and management practices, from high-yielding tea clones and irrigation to diversification and soil improvement, remains a major barrier in many areas. Availability and use of improved tea clones is expanding, with real hope that the key to longer-term climate resilience may lie in the very DNA of the tea plants themselves.

Globally, our most precious of hot drinks faces an uncertain future. Viable zones for tea production will shift, providing new benefits for some and huge risks for others. Facing these opportunities and threats in a climate-smart way will help farmers to proactively address climate change and ensure we all still get our daily infusion of liquid gold.

Dr. Nilambari Gurav

Department of Pharmacognosy





Tapasvi Purshottam Karekar

प्रेम म्हणजे काय असतं ?

प्रेम म्हणजे एक आपुलकीची भावना असते
जी फक्त प्रियकर प्रियसीच्या नात्यात नाही, तर सगळ्यांच्या मनातून मोहरते...

ती नवरा बायकोच्या डोळ्यात दिसते
ती बहीण भावाच्या भांडणात हसते
ती मित्रांबरोबरच्या बंडखोरीत वाढते

प्रेम म्हणजे एक आपुलकीची भावना असते
जी फक्त प्रियकर प्रियसीच्या नात्यात नाही, तर सगळ्यांच्या मनातून मोहरते...

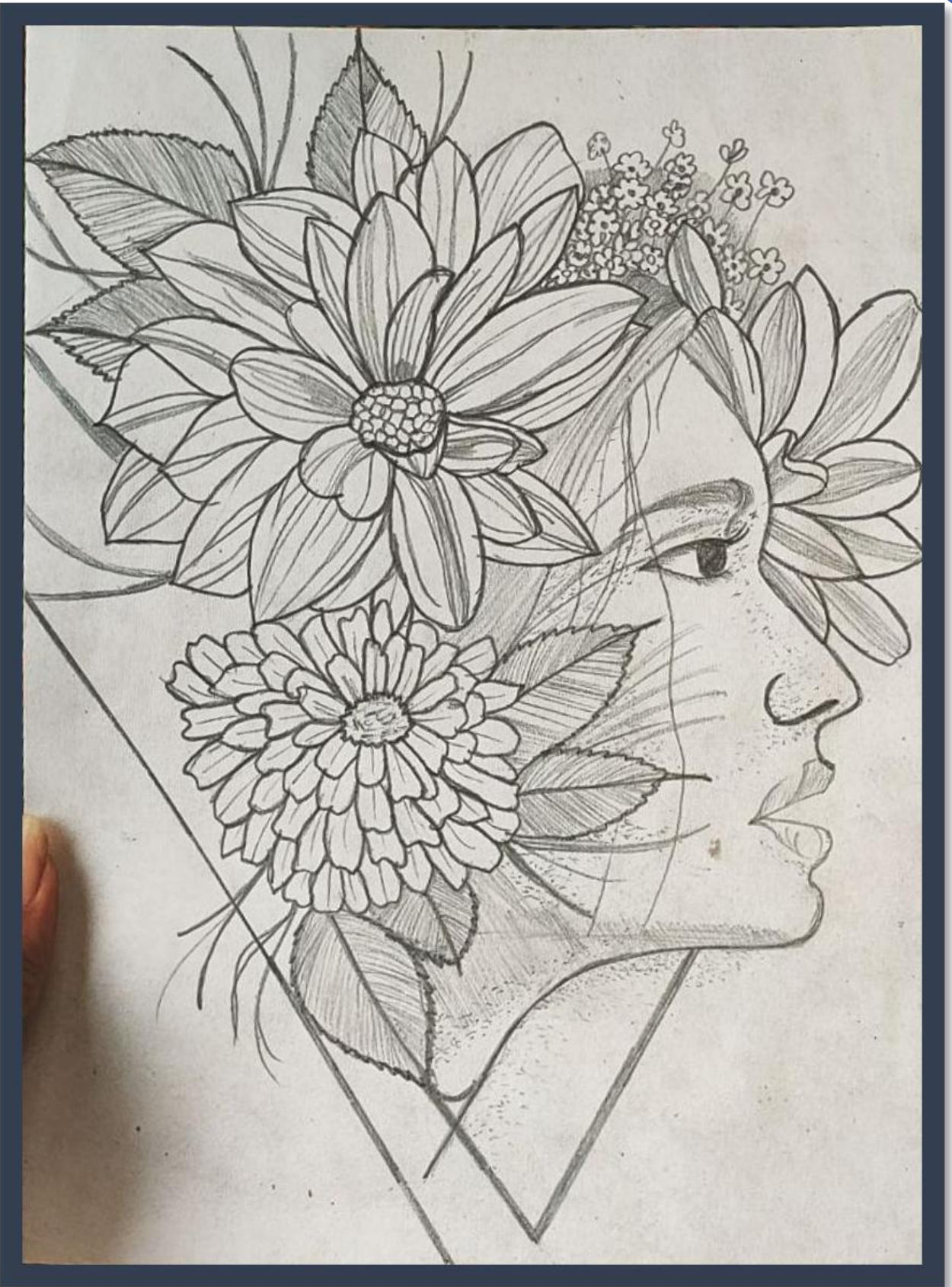
आईच्या लाडात आणि बाबांच्या मारात ती आम्हाला जगणं शिकवते
गुरु विद्यार्थी मधल्या जबाबदारीच्या नात्यात ती आम्हाला यशाची वाट दाखवते
आजी आजोबांच्या मायेच्या सावलीतून ती आम्हाला लहानाचं मोठं करते

प्रेम म्हणजे एक आपुलकीची भावना असते
जी फक्त प्रियकर प्रियसीच्या नात्यात नाही, तर सगळ्यांच्या मनातून मोहरते...

- Vaibhavi Vijay Dhuri

Sem VIII

4th Year B.Pharm



जिंदगी

जिंदगी ने भी कैसा मोड़ है दिखलाया,
हर इंसान की असलियत से रूबरू है करवाया ।

यहां अपनों ने ही दुखों से सामना है करवाया,
इन दुखों का सामना करवा कर जिंदगी ने मजबूत है बनाया ।

जिंदगी ने भी कैसा मोड़ है दिखलाया,
हर इंसान की असलियत से रूबरू है करवाया ।

हर रिश्ते के पीछे का स्वार्थ है दिखलाया,
लोगों के प्यार के पीछे का असली मतलब है बतलाया ।

जिंदगी ने भी कैसा मोड़ है दिखलाया,
हर इंसान की असलियत से रूबरू है करवाया ।

जल्द ही मिलेंगे सच्चा प्यार करने वाले अपने, यही दिमाग ने बतलाया,
जल्द ही पूरी होंगी ख्वाहिशें, पूरे होंगे सारे सपने, यही दिल ने समझाया ।

जिंदगी ने भी कैसा मोड़ है दिखलाया,
हर इंसान की असलियत से रूबरू है करवाया ।
हर इंसान की असलियत से रूबरू है करवाया ।

- Vaibhavi Vijay Dhuri
Sem VIII
4th Year B.Pharm



Sairaj Naik

♡ माँ आणि मातृत्व ♡

जन्मा आधी जोडली गेली तूझी माझी नाळ
माझ्या रडण्याने पदरी आले तुझ्या मातृत्वाचे दान
मायेच्या पदराने
दिली तू प्रत्येक वेळी साथ
आई तुझ्या त्यागाचे कसे फेडु मी पान?

जरी मला आठवत नसेल
बालपणी तू भरवलेला पहिला घास
पण आई आज पण आठवतो
तुझ्या मांडीवर निघून जाणारा त्रास

आई होऊन केली ममता अपार
गुरु होऊन दिली शिक्षा अपार
मैत्रिण बनून दिली आयुष्यभर साथ
देवापुढे सतत केली माझ्या आरोग्यासाठी कामना
आई कुठून आणला तो मातृत्वाचा अथांग खजिना?



~रितीका मांद्रेकर

Semester-VII

Fourth Year

B. Pharmacy



- Vishvesh kerkar..

Pharmaceutical Industry, It's History and Future

The pharmaceutical industry is a relatively new industry, the origins of which can be traced to the mid 19th century. Until that time, there was no mass production of drugs; apothecaries relied mainly on the natural remedies, which were ineffective in solving the most prevalent health issues of the time.

The emergence of the Pharmaceutical industry was largely associated with the overall development related to the creation and application of drugs such as morphine and strychnine has led to the need for mass production of these drugs. This in turn caused apothecaries to initiate wholesale production and distribution, abandoning the previous direct sales channels. Similarly, well-established chemical companies are moved into the emerging market of chemical drugs, after researchers discovered an application for their chemicals in medicine and science.

Pharmaceutical firms first emerged in Germany at the end of 19th century, but soon gained popularity in other areas of the globe, such as England and America. The Pharmaceutical industry grew in place with the growth of medical technology, expanding the range of products available. However, the development of new drugs required a lot of time and effort, making it difficult for individual scientists or small groups to search for new medicine. As the popularity and income of the Pharmaceutical industry grew, pharmaceutical firms began forming partnerships with laboratories and research groups in order to expedite the development of new products and the improvement of existing ones. These partnerships continue today owning state-of-the-art laboratories staffed with highly qualified research groups. Apart from the advancement of medical science, the pharmaceutical industry was also influenced by government regulations. For instance, in some countries, pharmaceutical companies were able to form stable partnerships with the government, thus achieving stability and increasing their market share.

Predict the Future:

Despite the significant progress in medical research, the numbers of health issues faced by people all over the world is still high, which is why it is likely that the pharmaceutical industry will continue to grow in future. However, as identified in the previous section, there are some serious threats to the industry that the future innovators will have to resolve. In order for the industry to move forward, it is crucial to focus on solving the health issues that are currently perceived by people as the most pressing such as cancer, obesity and cardiovascular diseases. In order to promote innovation and involve further growth of the industry, it is crucial for the industry leaders to respond to the identified threats by:

- Establishing partnerships across the industry to achieve a competitive advantage.
- Reducing the costs by using efficient technologies and effective HR practices, including talent management.

- Increasing the range of products to compete with little Pharma and generic companies
- Building stronger community connections to appeal to customer (for instance by holding health education events, fundraisers etc)
- Receiving and updating regulatory policies to reflect any external changes.

The innovators in the pharmaceutical industry will most likely turn in big Pharma companies as they are under significant pressure to develop new strategies. If companies manage to build strong connections with partners, communities and the government, they will be able to ensure the future success at the entire industry by solving many of the current challenges, including the increased competitive pressure, changes to the regulations and more.

Pratham Bagkar



- Vishvesh kerkar..

Vital role of youth in combating HIV AIDS

India, a nation with one of the Highest population in the world, stands as a bulky contributor in the AIDS patients with a number of 2.47 million people (as of 2022).

But yet, we are still full of the young blood as around 50% of the population is below the age of 25 years. That's one of the important powers we have in between our image as a developing nation which would be a contribution towards awakening people about this deadly health condition. Youth have a prominent positioning in playing a role to combat HIV AIDS from personal to a mass spectrum level.

Further are some ways we can work hand in hand to make our country HIV epidemic free:-

1. Education is Important along with Awareness.

We usually see awareness campaigns in schools or colleges which try to talk about the cure and some of the preventive measures towards the HIV transmission. But that's not enough. Talking about the causes of the transmission and providing resources to prevent them is very important.

Most of the people directly connect the HIV AIDS infection with sexual intercourse and make it a taboo topic and shy away to speak about it. But the image would change if people are well informed about the causes i.e HIV can be transmitted not only through semen, pre seminal fluids or vaginal fluids but also through use of contaminated needles and breast feeding from an infected mother too. That having irresponsible sexual intercourse is not the only reason behind it and hence everyone is susceptible to the infection irrespective of their age, gender, life background and economic status. So everyone should be made comfortable enough to have and ask queries about it. That, a comfortable environment is to be made through the road of education to let everyone know about their own health and body.

2. It all begins with Personal safety.

Being a country with mostly middle class families and mindset, we have seen our elders always neglecting their own health in the day to day fast moving life. But isn't the new generation that can have a new prospect about the health planning?

We need to take the responsibility of our own health and of our loved ones. It's in our hands, that the pleasure taken should be always safe and responsible one. Doing regular checkups and not waiting for the time only till found susceptible to the infection could lead to detection of virus way earlier and starting of treatment before the conditions worsen.

3. Humanity lies in taking care of others.

It's the correct time to realise that an epidemic like that of AIDS requires both a medical perspective as well as a completely human perspective to lead to a complete cure. As young adults with adequate knowledge and understanding of the disease, we should take responsibility of providing care to the ones already suffering.

A example can be brought forward only by the power our country's youth hold to stop viewing HIV AIDS patients as untouchables and to be neglected people. The taboo around them should be broken by providing a helping hand through care, that too, voluntarily.

After all, as the young citizen of the nation, we behold the duty of shaping and being the future itself. Hence, it's an utmost need that the youth come forward and give their best towards this cause of safeguarding people and making many faces smile the widest.

Tanvi R Naik

Third year B.Pharm

PHOTO GALLERY FOR THE YEAR 2023-24

Annual Day 2024



FAREWELL 2024



Ransangram: Sports day







Radicals 2024





NAWARATRI CELEBRATION WITH SARASWATI PUJA



GHOOMAT AARTI COMPITION



cGMP Day (Current Good Manufacturing Practices)





RED RIBBON CLUB PROGRAMME



Librarian's Day Celebration



Teacher's Day Celebration



NBA Accreditation Celebration

