SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Coimbatore -641035

COURSE NAME: PHARMACEUTICS I (BP 103 T)

I YEAR / I SEM

TOPIC 1 : HISTORICAL BACKGROUND AND DEVELOPMENT OF PROFESSION OF PHARMACY

SUB TOPIC : HISTORY OF PROFESSION OF PHARMACY IN INDIA IN RELATION TO PHARMACY EDUCATION

Pharmaceutics is the discipline of pharmacy that deals with the process of turning a new chemical entity (NCE) or old drugs into a medication to be used safely and effectively by patients. It is also called the science of dosage form design.

DRUG

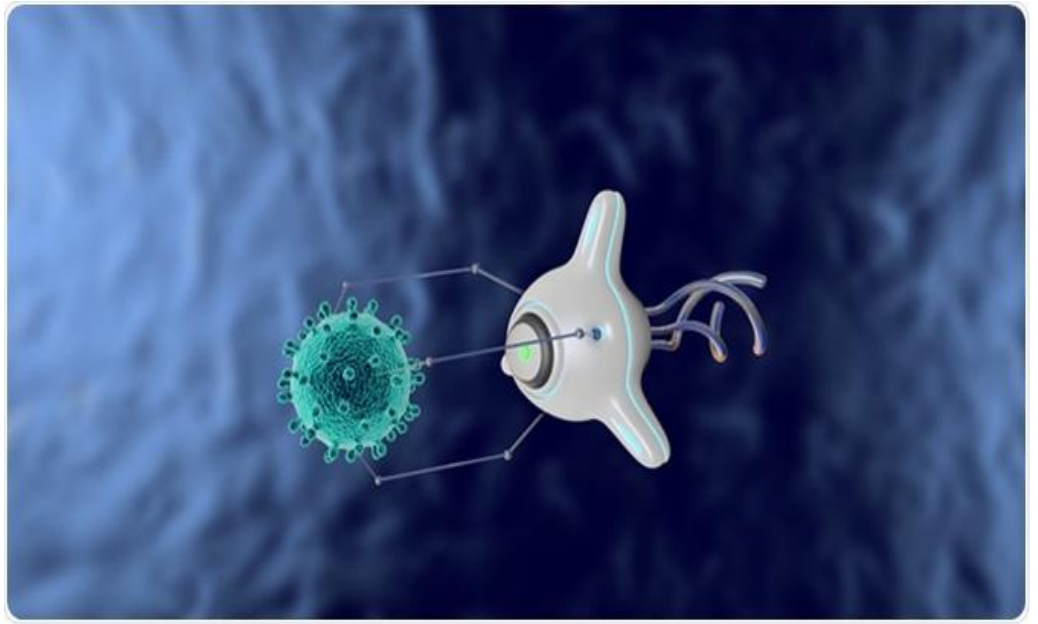
EXCIPIENTS

DOSAGE FORMS

Dosage forms:

Dosage Form (DF) is defined as the physical form of a dose of a chemical compound used as a drug or medication intended for administration or consumption. Common dosage forms include pill, tablet, or capsule, drink or syrup, aerosol or inhaler, liquid injection, and natural or herbal form such as plant or food of sorts, among many others.

The route of administration (ROA) for drug delivery is dependent on the dosage form of the substance.



Nasal
- Drops
- Sprays

Inhalation
- Dry powders
- Liquid sprays

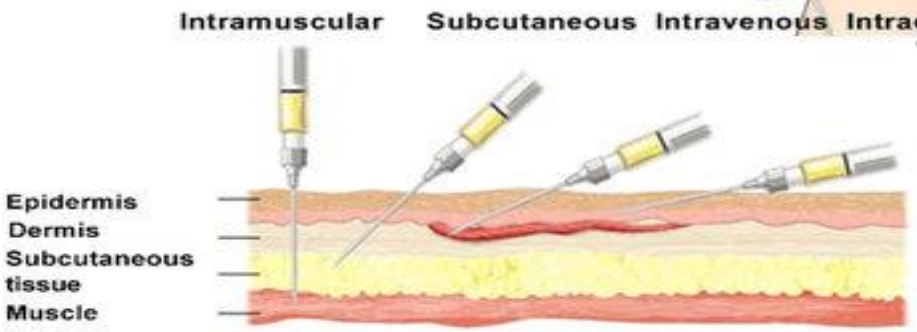
Oral
(Including buccal and sublingual)
- Tablets
- Capsules
- Orally disintegrating tablets
- Buccal tablets
- Sublingual tablets
- Mini tablets
- Effervescent tablet
- Thin films
- Medicated gums
- Granules
- Troches
- Lozenges
- Solutions
- Suspension
- Emulsion
- Elixir
- Buccal sprays

Otic
- Topical
- Intratympanic
- Intracochlear

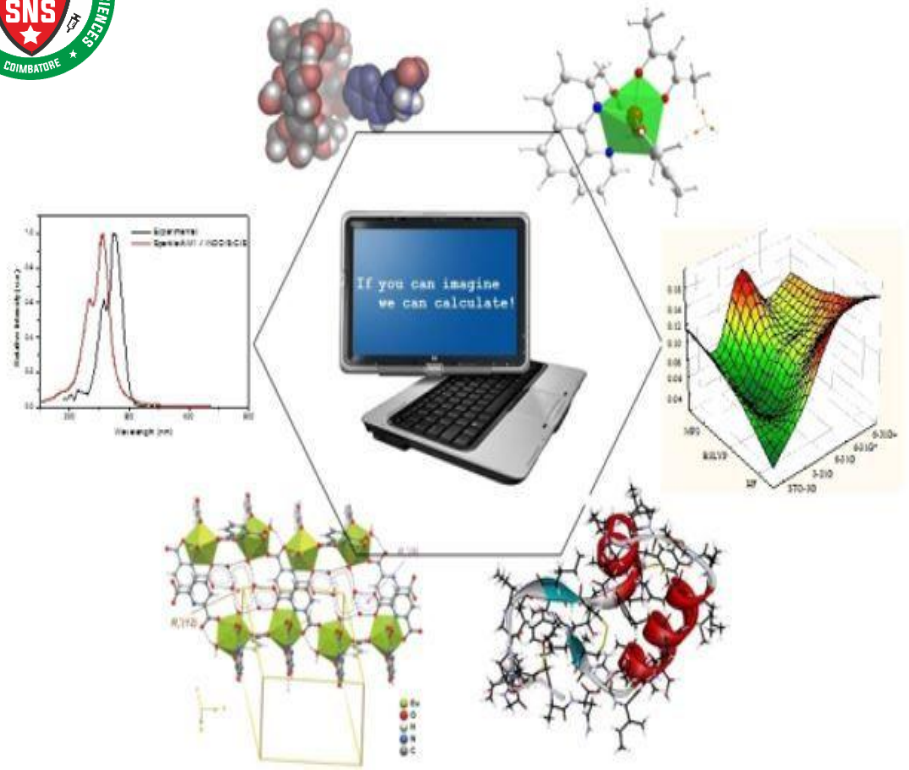
Ocular
- Solutions
- Emulsions
- Suspension
- Ointments
- Contact lens
- Implants
- Inserts
- Intravitreal

Topical / Transdermal
- Ointments
- Creams
- Lotion
- Gel
- Sprays
- Patches

Parenteral



Rectal / Vaginal
- Suppository
- Enema
- Tablets
- Pessary
- Gel
- Cream
- Foam
- Sponge



- This slide visually represents the **integration of computer-aided drug design and traditional pharmacy practice**.

On the left side, molecular structures, computational models, graphs, and 3D simulations highlight **modern computational tools** in drug discovery.

- It conveys the **bridge between scientific imagination, computational calculation, and hands-on pharmacy practice**.

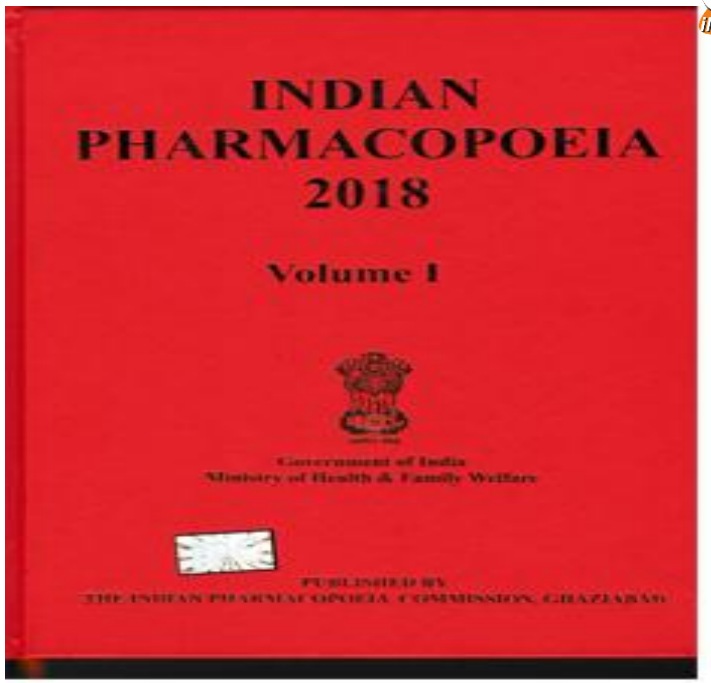
The stainless-steel reactors and controlled environment indicate **industrial drug production under GMP (Good Manufacturing Practices)**. Such facilities are used for **formulation, mixing, and large-batch synthesis of medicines**. It highlights the importance of **safety, precision, and quality control in pharmaceutical industries**.

- The pharmacist provides **medication counseling, guidance on proper drug use, and healthcare support**.
- Shelves stocked with medicines in the background highlight **drug dispensing and inventory management**.
- It reflects the pharmacist's role in ensuring **safe, effective, and patient-centered healthcare delivery**.

HISTORY OF PROFESSION OF PHARMACY IN INDIA IN RELATION TO PHARMACY EDUCATION, INDUSTRY AND ORGANISATIONS

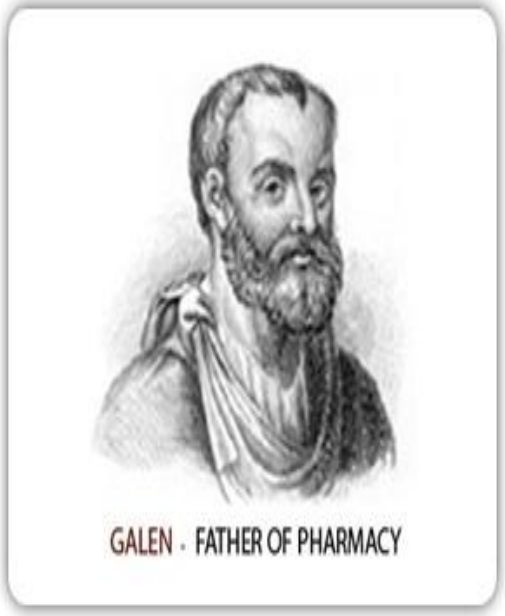
- Greeks were one of the first patrons of this profession. The word pharmacy originated from the Greek word "PHARMAKON".
- It was in 9th century in the civilized world around Baghdad that the profession of pharmacy started acquiring shape.

- This happened only when the role of pharmacist as a compounder of medicines were identified and differentiated from physician whose role was accepted as the therapist.
- The practice in those times was restricted to compounding, dispensing medication and manufacturing medicaments in bulk lots not for general sale.



A pharmacopoeia,, in its modern technical sense, is a book containing directions for the identification of compound medicines, and published by the authority of a government or a medical or pharmaceutical society. Descriptions of preparations are called monographs.

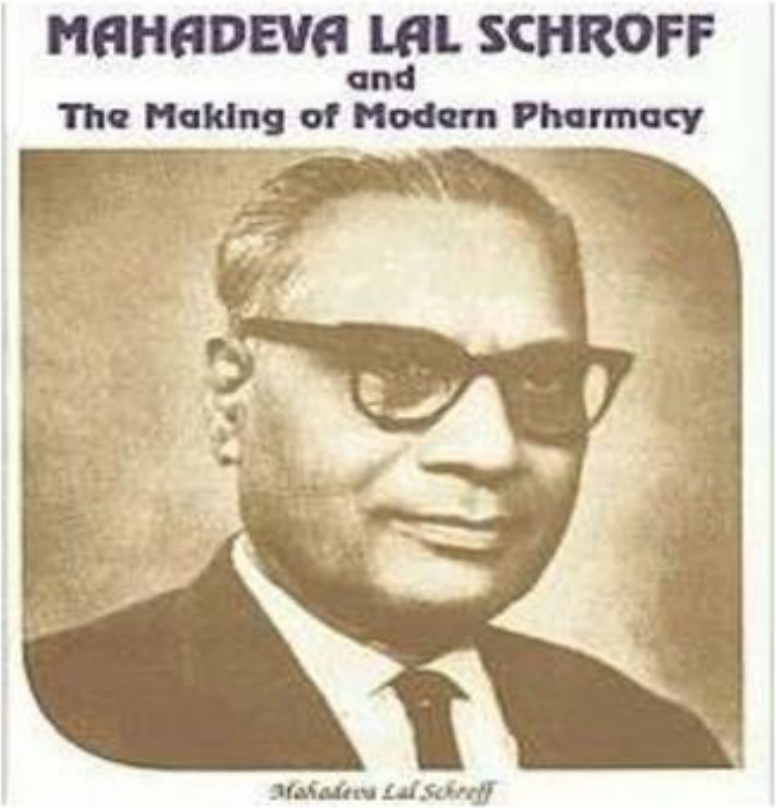
- The first National formulary was published in 1888.
- The inception of pharmacy profession in India was marked by the first class of the chemist and druggist conducted at the Madras medical college in 1870s to train students to gain skills in pharmacy practice.



Pharmacy education pattern was based on the instructions provided by the pharmaceutical society of Great Britain.

A formal training of the compounders was started in 1881 in Bengal.

The pharmacy profession entered India almost simultaneously.



What Do Pharmacists Do?

- Educate patients about prescription and over-the-counter medications
- Advise other health care professionals on drug decisions for patients

- Provide expertise about the composition of drugs, including chemical, biological and physical properties, as well as on use

- Ensure drug purity and strength
- Ensure drugs do not interact in a harmful way

Pharmacy is the science concerned with medicines and their uses.
It involves the discovery, development, manufacturing, and distribution of drugs.
Pharmacists ensure safe and effective treatment for prevention and cure of diseases.
The field bridges laboratory research with patient healthcare for the betterment of mankind.




Production & Manufacturing
A B. Pharm graduate has a lucrative career in the production of pharmaceutical products
Formulation Development
A B. Pharm graduate plays a significant role in the formulation of an accurate dosage form
Quality assurance & Quality Control
The success of any Pharmaceutical industry is in the quality of its products which lies in the hands of a B.Pharm graduate
Drug Regulatory Affairs
A B.Pharm graduate is the minimum eligibility for governing the laws and regulations such as the Federal Food Drug and Cosmetics Act, Patents, Trademarks and Intellectual Property Rights of the pharmaceutical industry
Pharmaceutical Packaging technology
Life of any pharmaceutical product depends upon its packing
Research & Development
Discovering a new drug has assumed prime importance in the pharmaceutical industry
Hospital Pharmacy
The Pharmacist is the qualified drug expert whose advice is sought by everybody regarding the dosage, incompatibilities & side effects of drugs
Community Pharmacy
The pharmacist serves a vital link between the patients and other healthcare professionals, especially the medical experts
Academics
As per the AICTE norms the minimum qualification for D.Pharm colleges as lecturer is B. Pharm
Marketing
Pharmaceutical production unit is incomplete without marketing & sales, anything produced has to be sold
Drug Inspector
Drug Controller
Scientist in CSIR, ICMR
Govt. Analyst
Govt. Jobs
Regulatory Bodies
Members of PCI, AICTE
Chemist Shop
Entrepreneurship
Establishment of a new pharmaceutical industry is another challenging area
Opportunities abroad
Golden opportunities galore for qualified Pharmacy professionals in various countries
Higher Studies
A B. Pharm candidate can opt for M. Pharm, MBA, MS-NIPER, Clinical Research
Nuclear pharmacy
Pharmacotherapy
Forensic Pharmacy
Armed Services
Pharma Consultancy
Medical Transcription
Other Opportunities
THE PHARMA TREE

Medicines are available in different forms to suit patient needs and therapeutic effects. Injections deliver drugs directly into the bloodstream for rapid action. Capsules provide a convenient oral form with precise dosage and easy swallowing. Tablets are the most common form, offering stability, portability, and controlled release.

- Clinical research is essential for testing the safety and efficacy of new medicines.
  It involves patient care, laboratory studies, and clinical trials under expert supervision.
- Researchers and healthcare professionals collaborate to develop evidence-based treatments.
- This field bridges medical innovation with real-world patient outcomes and healthcare advancement.

HOSPITAL PHARMACY

CAREER OPTIONS AFTER COMPLETING B. PHARM OR M. PHARM

1.Teaching:

M Pharm pass out students can get as assistant professor job in pharmacy degree colleges.

Assistant Professor Scale: Starting Salary

Rs. 40000 to 45000 (As per 15600 – 39100 AGP – 6000)

M.Pharm, Ph.D plus 5 years of experiens get as associate professor job in pharmacy degree colleges

Associate professor Salary: Starting Salary

Rs. 78000 to 80000 (As per 37400 – 67000 AGP 9000) per month

2.Pharmacist

- Being in the health-related field, the D. Pharm or B Pharm graduate can be Health-system Pharmacist or Hospital Pharmacist or Community Pharmacist.
- **Salary** as Store Keeper/Junior Pharmacist near about **Rs.20000** per months in government sector

3.Quality Assurance Health Manager :

- The Pharmacy graduate can play an important role in the development of clinical care plans, can investigate adverse medication events and in some cases can suggest preventive measures. He can play a key role in spreading awareness amongst the people about AIDS and the preventive measures to be taken.

6. **Sales and Marketing:** Ambitious achievers with pleasant personality and good communication skills can opt for the job of Medical Sales Representative. The companies prefer pharmacy graduates for this job, as they have a good knowledge about the drug molecules, their therapeutic effects and the drug – drug interactions.

7. **Clinical Research:** B Pharm/ M Pharm degree holders can take up career in clinical research. The human testing phase is called the clinical trial. A pharmacist can work as clinical research associate or clinical pharmacist and can rise to the position of project manager. The clinical research associate plays an important role of monitoring and overseeing the conducts of clinical trials, which are conducted on healthy human volunteers. They have to see that the trials meet the international guidelines and the national regulatory requirements.

8. **Data Manager:** A pharmacist can seek employment as "Data Manager" to store the data in the computer and process it using software developed for the purpose.

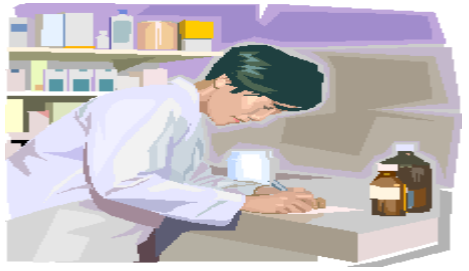
9. **Regulatory Manager:** A pharmacy graduate can work as "Regulatory Manager"(RM) in companies and contract research organisation. As an RM he has to oversee regulatory documentation such as Clinical trial approval permission, marketing approval permission etc.

10. **Career in Regulatory bodies:** A Pharmacist can be absorbed in the Regulatory bodies like Food and Drug Administration. Pharmacist having experience in clinical trial centres can also work as an inspector to inspect the clinical trial process. For these government jobs the student needs to appear and pass the MPSC examination.

11. Biotechnology is a fast growing branch and the B Pharm graduates can opt for post graduate diploma programme in Bioinformatics.

12. The B Pharm Science programme is considered as a paramedical programme. The B Pharm Science graduates can therefore work in hospitals as hospital pharmacist or community pharmacist.

13. Since they have a good knowledge of therapeutic effects of drugs and that of drug-drug interaction, they are more suitable for a job in clinical research. They can opt for the post of clinical pharmacist or clinical research associate in a clinical research laboratory.




THANK
YOU!