PHARMACEUTICS DEPARTMENT

MALIBA PHARMACY COLLEGE

Infrastructure/facilities & Expertise: Academic-Industry research project collaboration

Sr. NO.	Name of Laboratory	Major Equipments	Experimental Setup
1.	Pharmaceutics Lab (M. Pharm students)	• Rimek Mini Press – I Multi-station rotary tablet machine • Brookfield LV DVII-Pro Viscometer • Electrolab dissolution apparatus – TDT-08L, TDT-06L • Pan coater • Probe sonicator • Rotary flask evaporator • Cam attached microscope • Magnetic stirrer with hot plate	Prefromulation study, Solid dispersion preparation, Transdermal patches, microbead & microcapsule preparation, Microemulsion & Gel preparation, Different types of tablet – Preparation and evaluation. Formulation of NDDS Dosage forms. Pharmacokinetic and BA study in collaboration with Pharmacology Dept of college.
2.	Pharmaceutics Lab - I (B. Pharm. Students)	• Digital prescription balance • Hot air oven • Double cone blender • Pyknometer, stalagmometer, Ostwald Viscometer • Collapsible tube sealing machine • Travelling microscope • Laboratory centrifuge • Optical microscope	Dispensing and compounding of Prescriptions: Mixtures, emulsion, solution, suspension, ointment, cream, gel, lotion, liniments etc. Physical Pharmacy Practicals: Viscosity, Surface tension & Interfacial tension, Chemical kinetics, Protein binding, Complexation, Micromeritics, Particle size determination Biopharmaceutics Practicals: Diffusion study, Complexation, Stability study, Pharmacokinetic data study
3.	Pharmaceutics Lab – II (B. Pharm. Students)	• Hot air oven • Colloid mill • Sieve shaker • Double cone blender • Digital bulk density apparatus	Unit operation Practicals related to mixing, filtration, distillation, heat transfer, size reduction, size separation, crystallization, Evaporation, Drying, Fluid flow etc.

		• Distillation assembly • Water distillation still • Analytical Balance • Reynold's apparatus • U-Tube & Inclined manometer • Venturimeter • Rotameter	
4.	Microbiology Lab (B. Pharm. Students)	• Incubator • Autoclave • Laminar Air flow cabinet • Colony counter • Zone reader • Millipore	Microbiology & Biotechnology related practicals: Isolation and cultivation of microbes, staining of microbes, sterilization, validation of aseptic area, sterility testing, fermentation etc.
5.	Industrial Pharmacy Lab (B. Pharm. Students)	• Rimek Mini Press – I Multi-station rotary tablet machine • Tray Dryer • Electrolab dissolution apparatus – TDT-08L, TDT-06L • Electrolab tablet disintegration apparatus • Tablet friability apparatus • Pan coater • Tablet hardness tester • Capsule filling machine • Muffle furnace • Granulator • Hot air oven • Ampoule filling & sealing machine • Ball mill • Ampoule clarity test apparatus • Mass mixture • Tincture press • Hand grinding mill • Magnetic stirrer with hot plate • Lab stirrer	Preparation and evaluation of: Tablet, capsule, Parenteral products, Ointment, gel, Monophasic and biphasic liquid products

Pharmaceutics PG Department:

The department of Pharmaceutics is one of the key departments of the Institute. It is equipped with state of the art facilities to undertake research in drug development and delivery. More recently, the department has initiated research on Microemulsion, Transdermal and Ocular based drug delivery. Pharmaceutics is the core branch of research in Maliba Pharmacy College comprising all the basic requirements as per AICTE guidelines. Drug development has become increasingly complex, time consuming and expensive. As a result there is an increased focus on making clinically established drugs perform better therapeutically in terms of efficacy, safety and improved patient compliance by designing novel and patentable technologies or delivery systems.

Thrust Research areas of Pharmaceutics Department:

- Development and Evaluation of fast & Slow Release oral formulation
- Formulation Development and Evaluation of Proniosomal Transdermal delivery
- Formulation development and optimization of swellable rupturable system for colon targeted delivery
- Development and Evaluation of Oral Gastroretentive Formulations
- Study of Solid dispersion for Improvement of Solubility of poorly soluble drugs.
- Formulation Development and Evaluation of Liposomal Transdermal Delivery System.
- Taste abatement of Bitter APIs.
- Microemulsion based drug delivery for improvement of bioavailability.
- Novel Ocular formulations.