

<b>Name of Course</b>	Pharmaceutics-II (Industrial And Quality Control) (Practical)
<b>Marks</b>	100 (50 + 50) Marks
<b>Introduction</b>	Pharmaceutics II is a branch of pharmacy that deals with the formulation, manufacturing, and quality control of various dosage forms. This course is designed to provide students with a comprehensive understanding of the industrial aspects of pharmaceuticals. The curriculum covers the fundamental concepts and equipment used in mixing, size reduction, drying, filtration, evaporation, compression, and rheology. Additionally, students will learn about the formulation and manufacturing of solid, semisolid, liquid, and parenteral dosage forms. The course will also cover the use of added substances such as preservatives, antioxidants, solubilizers, suspending agents, buffers, and stabilizers in pharmaceutical products. Students will gain an understanding of the filling and packaging process, including the various materials used for packaging. Quality control and assurance systems adopted in the pharmaceutical industry will also be discussed, along with the storage of pharmaceutical and packaging materials. As a part of the syllabus, students will go on study tours to various hospitals, retail pharmacies, pharmaceutical industries, and medicinal plant collections to gain practical experience and exposure to real-world situations. Upon completion of this course, students will have the necessary knowledge and skills to excel in the pharmaceutical industry.
<b>Learning Outcome</b>	<p>After completing the course Pharmaceutics-II (Industrial and Quality Control), students will be able to:</p> <ul style="list-style-type: none"> <li>• Explain the basic principles of formulation and manufacturing of different dosage forms and the use of added substances.</li> <li>• Describe the processes and equipment used in mixing, size reduction, drying, filtration, evaporation, compression, and rheology in pharmaceutical manufacturing.</li> <li>• Understand the importance of filling, packaging, and different packaging materials used in the pharmaceutical industry.</li> <li>• Understand the quality control and assurance system adopted in the pharmaceutical industry and describe the documentation required in pharmaceutical manufacturing.</li> <li>• Gain practical knowledge through study tours to various hospitals, retail pharmacies, pharmaceutical industries, and medicinal plant collections.</li> </ul>

### Curriculum

1. Manufacture of Tablets by wet granulation. Manufacture of Tablets by Slugging.
2. Manufacturing of Capsules
3. Manufacturing of Syrups, Suspensions, and Emulsions
4. Ampoule filling, sealing, and sterilization.
5. Quality Control Tests of Tablets
6. Disintegration, Dissolution, Friability, Hardness, and thickness tests, Determination of weight variation in tablets, Density of powder, and Particle size analysis.
7. Clarity and leakage tests in injectables.
8. **NOTE:** The candidates are required to work for 200 hours in a Hospital, Factory, Shop, or Dispensary during summer vacation. They must maintain a diary of work signed daily by the Manager.

<b>Name of Course</b>	Pharmaceutics-II (Industrial And Quality Control) (Written)
<b>Marks</b>	100 (50 + 50) Marks
<b>Introduction</b>	Pharmaceutics II is a branch of pharmacy that deals with the formulation, manufacturing, and quality control of various dosage forms. This course is designed to provide students with a comprehensive understanding of the industrial aspects of pharmaceuticals. The curriculum covers the fundamental concepts and equipment used in mixing, size reduction, drying, filtration, evaporation, compression, and rheology. Additionally, students will learn about the formulation and manufacturing of solid, semisolid, liquid, and parenteral dosage forms. The course will also cover the use of added substances such as preservatives, antioxidants, solubilizers, suspending agents, buffers, and stabilizers in pharmaceutical products. Students will gain an understanding of the filling and packaging process, including the various materials used for packaging. Quality control and assurance systems adopted in the pharmaceutical industry will also be discussed, along with the storage of pharmaceutical and packaging materials. As a part of the syllabus, students will go on study tours to various hospitals, retail pharmacies, pharmaceutical industries, and medicinal plant collections to gain practical experience and exposure to real-world situations. Upon completion of this course, students will have the necessary knowledge and skills to excel in the pharmaceutical industry.
<b>Learning Outcome</b>	<p>After completing the course Pharmaceutics-II (Industrial and Quality Control), students will be able to:</p> <ul style="list-style-type: none"> <li>• Explain the basic principles of formulation and manufacturing of different dosage forms and the use of added substances.</li> <li>• Describe the processes and equipment used in mixing, size reduction, drying, filtration, evaporation, compression, and rheology in pharmaceutical manufacturing.</li> <li>• Understand the importance of filling, packaging, and different packaging materials used in the pharmaceutical industry.</li> <li>• Understand the quality control and assurance system adopted in the pharmaceutical industry and describe the documentation required in pharmaceutical manufacturing.</li> <li>• Gain practical knowledge through study tours to various hospitals, retail pharmacies, pharmaceutical industries, and medicinal plant collections.</li> </ul>

### Curriculum

1. General introduction to the following processes and equipment used: Mixing, Size Reduction, Drying, Filtration, Evaporation, Compression, Rheology.
2. A Brief introduction to the formulation and manufacturing of Solid, Semisolid, Liquid and Parenteral Dosage forms
3. An introduction to the added substances like Preservatives, antioxidants, solubilizer, suspending agents, buffers, stabilizers etc.
4. Filling, Packaging and various materials used for packaging
5. An understanding of quality control of Pharmaceuticals.
6. Quality assurance system adopted in pharmaceutical industry.
7. Storage of Pharmaceutical and Packaging materials
8. Documentation in Pharmaceutical Industry
9. STUDY TOUR:
10. To visit various hospitals, retail pharmacies, pharmaceutical industries and medicinal plant collection will be an integral part of the syllabi.