

### Syllabus for the Ph.D. Entrance Examination

Name Of the Institute	:	Institute of Pharmacy
Name of Department/Specialization	:	Pharmaceutics
Academic Year	:	2026-2027
<ol style="list-style-type: none"><li>1. Formulation and evaluation of specialized solid, liquid and semisolid dosage forms. An overview of aerosol, cosmetic and nutraceutical products.</li><li>2. Pre-formulation and stability testing, Process Validation, GMP practices and Dissolution Profiling, Scale-up considerations in Pharmaceutical Industry, Sterilization and aseptic manufacturing of parenteral products.</li><li>3. Biopharmaceutics and Pharmacokinetics and their importance in formulation, Transporters for absorption of drug, an importance of BCS classification, BA-BE study of various dosage forms, An overview on biowaver, orange book and IVIVC.</li><li>4. Sustained and controlled drug delivery Systems-Basic concepts and factors for selection of particular drug delivery, Development of novel drug delivery systems like sustained, osmotic, oral, parenteral, topical, buccal, nasal, transdermal, pulmonary, ocular etc. Formulation and evaluation of Nano drug delivery systems for treatment of various diseases.</li><li>5. An overview of NDA, ANDA and IND application. Regulations for Product filing and Documentation in various countries.</li><li>6. Applications of Design of experiments and Quality by design in optimization of formulation Development and its statistical interpretation. An overview on guidelines related to Quality by Design and its implications in Pharmaceutical Industry.</li></ol>		
Date: 07/02/2026		
		
Dr. Shital Butani Signature of Area coordinator		Dr. Gopal Natesan Signature of HoI