Subject –Specific Entrance Test
Table of Specification
Ph.D. (Pharmaceutics)

S.#	Themes	Topics
1	**Physical Pharmacy & Pharmaceutical Preparations**	➤ Micromeritics ➤ Disperse system ➤ Rheology ➤ pH, Buffer and Ionization ➤ Kinetics and drug Stability (order of reactions, half life, stability guidelines) ➤ Topicals preparations and syrups.
2	**Pharmaceutical Microbiology and Immunology**	➤ Foundations of Microbiology (staining, culture media, microscopy) ➤ Principles of Sterilization and Disinfection ➤ Microbial contamination in pharmaceutical products ➤ Basic and Applied Immunology
3	**Pharmaceutical Quality Management and Regulations**	➤ Pharmaceutical Quality Management System (Good Manufacturing Practices (GMP) and Quality Assurance Systems) ➤ Validation and calibration ➤ Global Regulatory Agencies (FDA, WHO) and Basics of Drug Laws
4	**Industrial Pharmacy**	➤ Fundamentals and Scope of Industrial Pharmacy ➤ Industrial manufacturing of solid dosage form (Granules, tablets, capsule) ➤ Industrial manufacturing of sterile dosage form (manufacturing and filling). ➤ Pharmaceutical Plant Layout and Facility Design
5	**Pharmaceutical Technology**	➤ Basics of Pharmaceutical Technology (modified release, sustained and controlled release) ➤ Preformulating & formulation studies Basic polymers used in formulation (HPMC, PVP, HPC, EC) ➤ Advanced Drug Delivery Systems (ADDS) (Gastro-retentive, fastdispersable, mucoadhesive, ➤ Nanotechnology ➤ Microencapsulation
6	**Biopharmaceutics and Pharmacokinetics**	➤ Definition of Biopharmaceutics and Pharmacokinetics ➤ Bioavailability and Bioequivalence ➤ Biowaiver protocol ➤ Drug Absorption, Distribution, metabolism and elimination. ➤ Compartmental Analysis and non-compartmental analysis