Subject-specific Entrance Test
Table of Specification
PhD in Pharmaceutical Chemistry, 2026

S.#	Themes	Topics
1	**Medicinal Chemistry**	**General Medicinal Chemistry** • Drug discovery and drug designing, • Physicochemical Properties, ADMET
		Systemic Medicinal Chemistry • SAR of CNS, CVS, Antibiotics, Antineoplastics, Analgesics, Antihistamines, Hypoglycemics, Anesthetics, Diuretics, Alkaloids, Antiviral, Anti-mycobacterium, Antimalarial, cholinergic-adrenergic drugs.
2	**Pharmaceutical Instrumentation**	**Spectroscopy** • Atomic absorption and Emission. • Molecular Fluorescence • UV-Visible, FT-IR, NMR and Mass spectroscopy.
		Chromatography • Thin layer chromatography (TLC), High Pressure Thin layer chromatography (HPTLC), Paper chromatography • Ion exchange, Size exclusion, Reverse Phase High Pressure chromatography (RP-HPLC), Gas Chromatography.
		Electrochemistry • Potentiometry • Polarography • Refractometer.
3	**Organic Chemistry & Inorganic Chemistry**	**Functional groups and their properties** • Aldehyde, ketone, carboxylic acid, • amine, amide, Imides, Phenols, etc.
		Stereochemistry • Stereoisomers, enantiomers, Functional, positional and geometrical isomers.
		Organic compounds with their chemical and medicinal properties • Aliphatic, aromatic, heterocyclic compounds, carbonium and carbanions.
		Inorganic compounds with their chemical and medicinal properties • Inorganic reaction. • Metal complexes.
4	**Analytical Chemistry**	**Qualitative and Quantitative Analysis** • Single and heterocyclic compounds • Assay Methods, Method development and validation
		Physical chemistry • Specific gravity, density, surface tension, solubility.