Academic Calendar Report

Mr. Jabbar Abbas Rajput (Professor)

Course:	Physical Pharmacy-I	**Program:**	PHARM-D
Batch:	2025-26	**Semester/Year:**	1st Year - 1st Semester

S.No.	Date	Week	Teacher	Description
1	19/01/2026	Week 1	Mr. Jabbar Abbas Rajput	Introduction to Pharmacy and History: i. Introduction and orientation to the Pharmacy Profession with the current scope and latest applications.
2	26/01/2026	Week 2	Mr. Jabbar Abbas Rajput	ii. A survey of the history of pharmacy through ancient, Greek, and Arab periods with special reference to the contribution of Muslim scientists to pharmacy and allied sciences.
3	02/02/2026	Week 3	Mr. Jabbar Abbas Rajput	iii. The Industrial Revolution and the development of Pharmaceuticals in the 20th century. iv. The developments in the 21st century, especially with reference to Biotechnology, nanotechnology, and artificial intelligence.
4	09/02/2026	Week 4	Mr. Jabbar Abbas Rajput	Introduction to Pharmaceutical Literature: Introduction to the scientific literature, literature types in pharmacy, official texts and compendia, and their significance.
5	16/02/2026	Week 5	Mr. Jabbar Abbas Rajput	Introductory concepts in Physical Pharmacy: i. Fundamentals and overview of the concepts of physicochemical properties and their application in product development. ii. Basic concepts of physical pharmacy in dosage forms science and its various applications.
6	23/02/2026	Week 6	Mr. Jabbar Abbas Rajput	Physico-Chemical Principles: i. Solutions: Types, concentration expressions, ideal and real solutions, colligative properties, and applications in pharmacy.
7	02/03/2026	Week 7	Mr. Jabbar Abbas Rajput	ii. Solubility and Solubilization: Definition and concepts of solubility and Solubilization, mechanism, factors affecting solubility and solubilization. iii. Dissolution and Permeation: Definition and concepts, types, Factors affecting dissolution and permeation, Noyes-Whitney equation
8	09/03/2026	Week 8	Mr. Jabbar Abbas Rajput	iv. Polymorphism: Basic concept, lattice structure, and significance in pharmaceuticals. Amorphous and crystalline solids and their effect on thermodynamics. Role in dissolution.
9	16/03/2026	Week 9	Mr. Jabbar Abbas Rajput	Ionization and Buffers: i. Strong vs. Weak Electrolytes, pH, pKa, and buffer systems and capacity. Henderson-Hasselbalch Equation and application in drug formulation. ii. Hypo, hyper, and Isotonic solutions and pharmaceutical applications.

S.No.	Date	Week	Teacher	Description
10	23/03/2026	Week 10	Mr. Jabbar Abbas Rajput	Ionization and Buffers: i. Strong vs. Weak Electrolytes, pH, pKa, and buffer systems and capacity. Henderson-Hasselbalch Equation and application in drug formulation. ii. Hypo, hyper, and Isotonic solutions and pharmaceutical applications.
11	30/03/2026	Week 11	Mr. Jabbar Abbas Rajput	Micromeritics: i. Particle size and its distribution, Texture and morphological characteristics of pharmaceutical powders. Role and importance in pharmacy and medicines.
12	06/04/2026	Week 12	Mr. Jabbar Abbas Rajput	Micromeritics: i. Particle size and its distribution, Texture and morphological characteristics of pharmaceutical powders. Role and importance in pharmacy and medicines.
13	13/04/2026	Week 13	Mr. Jabbar Abbas Rajput	ii. Methods of particle size analysis, distribution, and morphological determination (sieving, microscopy etc.). iii. Flow properties: Carr’s Index, Hausner’s ratio, angle of repose.
14	20/04/2026	Week 14	Mr. Jabbar Abbas Rajput	ii. Methods of particle size analysis, distribution, and morphological determination (sieving, microscopy etc.). iii. Flow properties: Carr’s Index, Hausner’s ratio, angle of repose.

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