



BENGAL SCHOOL OF TECHNOLOGY

AUTONOMOUS

Estd. by Supreme Educational Development and Charitable Organization (SEDCO)

Recognised by UGC & included u/s 2(f) of UGC Act 1956

Approved by Pharmacy Council of India, New Delhi

Affiliated to: Maulana Abul Kalam Azad University of Technology (MAKAUT) &

West Bengal State Council of Technical and Vocational Education and Skill Development (WBST&VE&SD)

Accredited by NAAC with "A" Grade, NBA for B. Pharm & QCI

Lesson Plan

Class: B.Pharm, 5th Sem., 3rd Year

Session: 2026-27 (Odd Sem)

Date of Commencement of Session: 30.07.2026

Subject Name: Industrial Pharmacy -I

Subject code: PT-515

Faculty In charge: Arunima Nag

Schedule of allotted class work (w.e.f)

Days	Monday	Tuesday	Wednesday	Thursday	Friday
Time/period Section A	02:25-03:25 p.m.		12:40-01:40 p.m.		
Section B	04:25-05:25 p.m.		03:25-04:25 p.m.		

Available Periods/week 4 Available periods in the total semester _____ Extra Classes _____

Guest Lectures planned if any with justification _____

Scope & Objective of the course: Better understanding and appreciating the influence of pharmaceutical additives and various pharmaceutical dosage forms on the performance of the drug product. To learn about the various pharmaceutical dosage forms and their manufacturing techniques, various considerations in development of pharmaceutical dosage forms, formulation of solid, liquid and semisolid dosage forms and evaluation them for their quality. Upon completion of the course the student shall be able to:

1. Know the various pharmaceutical dosage forms and their manufacturing techniques.
2. Know various considerations in development of pharmaceutical dosage forms
3. Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality.

Reading materials:

A. Text Books

Sl. No.	Name of the Text Book(s)	Author	Edition	Publisher	Accession No.	Rack No
1	The Theory and Practice of Industrial Pharmacy	Lachman, L. & Lieberman, H. A.	4 th Edition	CBS Publication	7006	R-4-A

B. Reference Books

Sl. No.	Name of the Text Book(s)	Author	Edition	Publisher	Accession No.	Rack No
1	Pharmaceutical Dosage forms, Tablets, Volume-1 to 3,	Lieberman H.A, Lachman C	4 th	Marcel Dekkar Inc	454 457 558	R: E-17

C. Journals / Website/Any other resources

Sl. No.	Name of the journal (s)/website/others	Source	Vol. no.	Month & Year
1	Drug Formulation Design	http://dx.doi.org/10.5772/intechopen.110346	NA	February 2023

Daily Teaching Schedule for UNIT-I

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
1	03.08.2026	Monday	Introduction to preformulation, goals and objectives, study of physicochemical characteristics of drug substances.	Offline (Smart Class & Black-Board)	A1,C1
2	05.08.2026	Wednesday	Physical properties: Physical form (crystal & amorphous), Particle Size, Particle shape,	Offline (Smart Class & Black-Board)	A1,B1,C1
3	10.08.2026	Monday	Physical properties: flow properties, polymorphism	Offline (Smart Class & Black-Board)	A1,B1,C1
4	12.08.2026	Wednesday	Solubility profile (pKa, pH, partition coefficient)	Offline (Smart Class & Black-Board)	A1,B1
5	17.08.2026	Monday	Chemical Properties: Hydrolysis, oxidation, reduction, racemisation,	Offline (Smart Class & Black-Board)	A1,B1
6	19.08.2026	Wednesday	BCS classification of drugs & its significance, polymerization	Offline (Smart Class & Black-Board)	A1,B1
7	24.08.2026	Monday	Application of preformulation considerations in the development of solid, liquid oral and parenteral dosage forms. Impact on stability of dosage forms.	Offline (Smart Class & Black-Board)	A1,B1

Daily Teaching Schedule for UNIT-III

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
1	31.08.2026	Monday	Capsules: a. Hard gelatin capsules: Introduction, Production of hard gelatin capsule shells	Offline (Smart Class & Black-Board)	A1,B1
2	02.09.2026	Wednesday	Hard gelatin capsule: size of capsules, Filling, finishing and special techniques of formulation of hard gelatin capsules,	Offline (Smart Class & Black-Board)	A1,B1
3	07.09.2026	Monday	Special techniques of formulation of hard gelatin capsules, and manufacturing defects.	Offline (Smart Class & Black-Board)	A1,B1
4	09.09.2026	Wednesday	In process quality control tests for capsules.	Offline (Smart Class & Black-Board)	A1,B1
5	14.09.2026	Monday	Final product quality control tests for capsules.	Offline (Smart Class & Black-Board)	A1,B1
6	16.09.2026	Wednesday	Soft gelatin capsules: Nature of shell and capsule content, size of capsules	Offline (Smart Class & Black-Board)	A1,B1
7	21.09.2026	Monday	Importance of base adsorption and minim/gram factors,	Offline (Smart Class & Black-Board)	A1,B1
8	23.09.2026	Wednesday	Production, in process and final product quality control tests.	Offline (Smart Class & Black-Board)	A1,B1
9	28.09.2026	Monday	Packing and storage of capsules.	Offline (Smart Class & Black-Board)	A1,B1
10	30.09.2026	Wednesday	Stability testing of soft gelatin capsules and their applications	Offline (Smart Class & Black-Board)	A1,B1
11	05.10.2026	Monday	Pellets: Introduction, formulation requirements, pelletization process,	Offline (Smart Class & Black-Board)	A1,B1
12	07.10.2026	Wednesday	Pelletization process, equipments for manufacture of pellets	Offline (Smart Class & Black-Board)	A1,B1

Daily Teaching Schedule for UNIT-V

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
1	12.10.2026	Monday	Cosmetics: Formulation and preparation of the lipsticks	Offline (Smart Class & Black-Board)	A1,B1
2	14.10.2026	Wednesday	Formulation and preparation of the lipsticks shampoos,	Offline (Smart Class & Black-Board)	A1,B1
3	28.10.2026	Wednesday	Formulation and preparation of the cold cream and vanishing cream,	Offline (Smart Class & Black-Board)	A1,B1
4	02.11.2026	Monday	Formulation and preparation of the tooth pastes,	Offline (Smart Class & Black-Board)	A1,B1
5	04.11.2026	Wednesday	Formulation and preparation of the hair dyes and sunscreens.	Offline (Smart Class & Black-Board)	A1,B1
6	18.11.2026	Wednesday	Pharmaceutical Aerosols: Definition, propellants, containers, valves	Offline (Smart Class & Black-Board)	A1,B1
7	23.11.2026	Monday	Types of aerosol systems; formulation and manufacture of aerosols; Evaluation of aerosols; Quality control and stability studies.	Offline (Smart Class & Black-Board)	A1,B1
8	25.11.2026	Wednesday	Evaluation of aerosols; Quality control and stability studies.	Offline (Smart Class & Black-Board)	A1,B1
9	30.11.2026	Monday	Revision	Offline (Smart Class & Black-Board)	A1,B1
Grand total number of classes planned for the semester: 28					

Daily Teaching Schedule for Practical

Sl. No.	Date	Day	Title to be covered
01	30.07.2026	Thursday(Group-D)	Preformulation Studies on Paracetamol/Aspirin/or any other tablet(Determination of partition coefficient of benzoic acid between benzene and water)
02	06.08.2026	Thursday(Group-D)	Preparation of Calcium Gluconate injection
03	13.08.2026	Thursday(Group-D)	Preparation of Ascorbic Acid injection
04	20.08.2026	Thursday(Group-D)	Preparation of Cold cream and Vanishing cream
05	27.08.2026	Thursday(Group-D)	Preparation of Antacid Suspension
06	03.09.2026	Thursday(Group-D)	Preparation of Paracetamol Granules and Tablets by Wet granulation method
07	10.09.2026	Thursday(Group-D)	In-vitro Evaluation of Paracetamol Tablets
08	24.09.2026	Thursday(Group-D)	Quality control test of Marketed paracetamol tablets IP
09	01.10.2026	Thursday(Group-D)	Preparation of simple ointment and sulphur ointment
10	08.10.2026	Thursday(Group-D)	Preparation of Zinc Sulphate Ear Drop
11	29.10.2026	Thursday(Group-D)	Evaluation of glass container(Whole Container test)
12	05.11.2026	Thursday(Group-D)	Evaluation of glass container(Powdered glass test)
13	19.11.2026	Thursday(Group-D)	Preparation of Calamine lotion
14	26.11.2026	Thursday(Group-D)	Preparation of Bentonite Jelly

