



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, 3rd Year, 5th Sem

Session: 2026-27

Date of Commencement of Session: 30th July, 2026

Subject Name: Pharmacognosy & Phytochemistry-II (Theory & Practical)

Subject code: PT 512 & PT 592

Faculty In charge: Mr. Siddheswar Maiti

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

Days	Monday	Tuesday	Wednesday	Thursday	Friday
Time/period	NA	12:40 PM – 01:40 PM	02:25 PM – 03:25 PM	NA	NA
Section A	NA	12:40 PM – 01:40 PM	02:25 PM – 03:25 PM	NA	NA
Section B	NA	03:25 PM – 04:25 PM	04:25 PM – 05:25 PM	NA	NA

Available Periods/week _____ 02 _____ Available periods in the total semester _____ 22 _____ Extra Classes _____ NA _____

Guest Lectures planned if any with justification _____ NA _____

Scope & Objective of the course: **Scope:** The main purpose of subject is to impart the students the knowledge of how the secondary metabolites is produced in the crude drugs, how to isolate and identify and produce them industrially. Also, this subject involves the study of producing the plants and phytochemicals through plant tissue culture, drug interactions and basic principles of traditional system of medicine **Objectives:** Upon completion of the course, the student shall be able 1. to know the modern extraction techniques, characterization and identification of the herbal drugs and phytoconstituents 2. to understand the preparation and development of herbal formulation. 3. to understand the herbal drug interactions 4. to carryout isolation and identification of phytoconstituents

Reading materials:

A. Text Books

Sl. No.	Name of the Text Book(s)	Author	Edition	Publisher	Accession No.	Rack No
1.	Pharmacognosy	C.K. Kokate	55 th	Nirali prakashan	BST-6263	18-B,18-C
2.	Pharmacognosy and Phytochemistry I	A.N. Kalia	1 st	CBS Publishers & Distributors	BST-12478	18-D

B. Reference Books

Sl. No.	Name of the Text Book(s)	Author	Edition	Publisher	Accession No.	Rack No
1.	Pharmacognosy and Pharmacobiotechnology	Ashutosh Kar	3 rd	New Age International Publishers	BST-7419	19-E
2.	Pharmacognosy	Mohammed Ali	2 nd	CBS Publishers & Distributors	BST-6708	20-B, 20-C, 20-D
1.	Pharmacognosy	Trease and Evans	16 th	Elisver	BST-7031	21-A, 21-B

C. Journals / Website/Any other resources

Sl. No.	Name of the journal (s)/website/others	Source	Vol. no.	Month & Year
1	International Journal of Pharmacognosy	Online	Volume 12	January, 2026
2	Journal of Natural Products	Online	Volume 89, Issue 1	January, 2026
3	Indian Journal of Traditional Knowledge	Online	Vol. 25 No. 1	January, 2026
4	Indian Journal of Pharmaceutical Sciences	Online	Vol, 87, Issue 5	September,2025
5	Natural Product Research	Online	Volume 39, Issue 24	December,2025

Daily Teaching Schedule for UNIT-I

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
1	04/08/2026	Tuesday	Brief study of basic metabolic pathways: Photosynthesis, Glycolysis.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
2	05/08/2026	Wednesday	Brief study of basic metabolic pathways: Citric acid cycle, Pentose Phosphate pathway.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
3	11/08/2026	Tuesday	Study about saturated and unsaturated fatty acid biosynthesis.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
4	12/08/2026	Wednesday	Study of basic metabolic pathways and formation of different secondary metabolites through these pathways- Shikimic acid pathway	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
5	18/08/2026	Tuesday	Study of basic metabolic pathways and formation of different secondary metabolites through these pathways- Shikimic acid pathway	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
6	19/08/2026	Wednesday	Brief study of basic metabolic pathways and formation of different secondary metabolites through these pathways: Mevalonic pathways	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
7	25/08/2026	Tuesday	Study of utilization of radioactive isotopes	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
8	08/09/2026	Tuesday	Study of utilization of radioactive isotopes in the investigation of Biosynthetic studies	Offline (Smart Class & Black-Board)	Text and reference books mentioned above

Daily Teaching Schedule for UNIT-II

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
1	09/09/2026	Wednesday	General introduction, composition, chemistry & chemical classes of Alkaloids.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
2	15/09/2026	Tuesday	Biosources, therapeutic uses and commercial applications of Alkaloids: Vinca, Rauwolfia	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
3	16/09/2026	Wednesday	Biosources, therapeutic uses and commercial applications of Alkaloids: Belladonna, Opium	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
4	22/09/2026	Tuesday	General introduction, composition, chemistry & chemical classes of Phenylpropanoids and Flavonoids. Biosources, therapeutic uses and commercial applications of Lignans, Tea & Ruta	Offline (Smart Class & Black-Board)	Text and reference books mentioned above

5	23/09/2026	Wednesday	General introduction, composition, chemistry & chemical classes of Steroids & Triterpenoids. Biosources, therapeutic uses and commercial applications of Liquorice.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
6	29/09/2026	Tuesday	General introduction, composition, chemistry & chemical classes of Cardiac Glycosides Biosources, therapeutic uses and commercial applications of Dioscorea, Digitalis.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
7	30/09/2026	Wednesday	General introduction, composition, chemistry & chemical classes of Volatile oils. Biosources, therapeutic uses and commercial applications of Mentha, Clove	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
8	06/10/2026	Tuesday	Biosources, therapeutic uses and commercial applications of Cinnamon, Fennel, Coriander.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
9	07/10/2026	Wednesday	General introduction, composition, chemistry & chemical classes of Resins.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
10	13/10/2026	Tuesday	Biosources, therapeutic uses and commercial applications of Benzoin, Guggul, Ginger.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
11	14/10/2026	Wednesday	Biosources, therapeutic uses and commercial applications of Asafoetida, Myrrh, Colophony.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
12	27/10/2026	Tuesday	General introduction, composition, chemistry & chemical classes of Iridoids, Other terpenoids & Naphthoquinones.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
13	03/11/2026	Tuesday	Biosources, therapeutic uses and commercial applications of Gentian, Artemisia.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above
14	04/11/2026	Wednesday	Biosources, therapeutic uses and commercial applications of taxus, carotenoids.	Offline (Smart Class & Black-Board)	Text and reference books mentioned above

Daily Teaching Schedule for UNIT-III

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA

Daily Teaching Schedule for UNIT-IV

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA

Daily Teaching Schedule for UNIT-V

Sl. No.	Date	Day	Title to be covered	Teaching Pedagogy / T.L.P.	Suggested Knowledge Resources
NA	NA	NA	NA	NA	NA
Grand total number of classes planned for the semester: 22					

Daily Teaching Schedule for Practical

Sl. No.	Date	Day	Title to be covered
1	30/07/2026	Thursday	Morphology, histology and powder characteristics & extraction & detection of: Cinchona, Cinnamon Gr. A
2	03/08/2026	Monday	Morphology, histology and powder characteristics & extraction & detection of: Cinchona, Cinnamon Gr. B
3	04/08/2026	Tuesday	Morphology, histology and powder characteristics & extraction & detection of: Cinchona, Cinnamon Gr. C
4	05/08/2026	Wednesday	Morphology, histology and powder characteristics & extraction & detection of: Cinchona, Cinnamon Gr. D
5	06/08/2026	Thursday	Morphology, histology and powder characteristics & extraction & detection of: Senna, Clove Gr.A
6	10/08/2026	Monday	Morphology, histology and powder characteristics & extraction & detection of: Senna, Clove Gr.B
7	11/08/2026	Tuesday	Morphology, histology and powder characteristics & extraction & detection of: Senna, Clove Gr.C
8	12/08/2026	Wednesday	Morphology, histology and powder characteristics & extraction & detection of: Senna, Clove Gr.D
9	13/08/2026	Thursday	Morphology, histology and powder characteristics & extraction & detection of: Ephedra, Fennel and Coriander. Gr.A
10	17/08/2026	Monday	Morphology, histology and powder characteristics & extraction & detection of: Ephedra, Fennel and Coriander. Gr.B
11	18/08/2026	Tuesday	Morphology, histology and powder characteristics & extraction & detection of: Ephedra, Fennel and Coriander. Gr.C
12	19/08/2026	Wednesday	Morphology, histology and powder characteristics & extraction & detection of: Ephedra, Fennel and Coriander. Gr.D
13	20/08/2026	Thursday	Exercise involving isolation & detection of active principles a. Caffeine - from tea dust. Gr.A
14	24/08/2026	Monday	Exercise involving isolation & detection of active principles a. Caffeine - from tea dust. Gr.B
15	25/08/2026	Tuesday	Exercise involving isolation & detection of active principles a. Caffeine - from tea dust. Gr.C
16	16/09/2026	Wednesday	Exercise involving isolation & detection of active principles a. Caffeine - from tea dust. Gr.D
17	27/08/2026	Thursday	Exercise involving isolation & detection of active principles Starch from Potato. Gr.A
18	31/08/2026	Monday	Exercise involving isolation & detection of active principles Starch from Potato. Gr.B
19	08/09/2026	Tuesday	Exercise involving isolation & detection of active principles Starch from Potato. Gr.C
20	23/09/2026	Wednesday	Exercise involving isolation & detection of active principles Starch from Potato. Gr.D
21	24/09/2026	Thursday	Exercise involving isolation & detection of active principles Atropine from Belladonna, Senna. Gr.A
22	07/09/2026	Monday	Exercise involving isolation & detection of active principles Atropine from Belladonna, Senna Gr.B
23	22/09/2026	Tuesday	Exercise involving isolation & detection of active principles Atropine from Belladonna, Senna. Gr.C
24	30/09/2026	Wednesday	Exercise involving isolation & detection of active principles Atropine from Belladonna, Senna. Gr.D
25	01/10/2026	Thursday	Separation of sugars by Paper chromatography. Gr.A
26	21/09/2026	Monday	Separation of sugars by Paper chromatography. Gr.B
27	29/09/2026	Tuesday	Separation of sugars by Paper chromatography. Gr.C
28	07/10/2026	Wednesday	Separation of sugars by Paper chromatography. Gr.D
29	08/10/2026	Thursday	TLC of herbal extract. Gr.A
30	28/09/2026	Monday	TLC of herbal extract. Gr.B
31	06/10/2026	Tuesday	TLC of herbal extract. Gr.C
32	14/10/2026	Wednesday	TLC of herbal extract. Gr.D

33	12/11/2026	Thursday	Analysis of crude drugs by chemical tests: Asafoetida, Benzoin, Colophony. Aloes, Myrrh Gr. A
34	05/10/2026	Monday	Analysis of crude drugs by chemical tests: Asafoetida, Benzoin, Colophony. Gr. B
35	13/10/2026	Tuesday	Analysis of crude drugs by chemical tests: Asafoetida, Benzoin, Colophony. Gr. C
36	11/11/2026	Wednesday	Analysis of crude drugs by chemical tests: Asafoetida, Benzoin, Colophony. Aloes, Myrrh Gr. D
37	12/10/2026	Monday	Analysis of crude drugs by chemical tests: Aloes, Myrrh. Gr. B
38	27/10/2026	Tuesday	Analysis of crude drugs by chemical tests: Aloes, Myrrh. Gr. C
39	16/11/2026	Monday	Practice

Si: Ashewar Maiti