GANPAT UNIVERSITY

FACULTY OF PHARMACY

Programme	Bachelor of Pharmacy	Branch/Spec.	General
Semester	I	Version	3.0.0.0
Effective from Academic Year	2026-27	Effective for the Batch admitted in	July 2026
Course Code	BP110P	Course Name	Introduction to Pharmacognosy (Practical)

Scheme	Teaching Scheme (Per week)					Examination Scheme (Marks)			
	L	TU	P	TW	Total		CE	SEE	Total
Credit	0	0	1	--	1	Theory	-	-	-
Hours	0	0	3	--	--	Practical	20	30	50

Pre-requisites	Nil / Basic knowledge of Chemistry and Biology

COURSE OBJECTIVES

The objectives of this course are to:

1. Identify medicinal plants and crude drugs using morphological and microscopical characters.
2. Analyze powdered drugs and perform quantitative microscopy.
3. Evaluate crude drugs using physicochemical parameters.
4. Introduce standardization and quality control of herbal materials.
5. Collect medicinal plants and prepare voucher specimens**.**

Course Outcomes

On successful completion of the course, the students will be able to:

CO1	Identify medicinal plants and crude drugs using morphological and microscopical characters.
CO2	Analyze powdered drugs microscopically to identify diagnostic cell contents.
CO3	Perform quantitative microscopy for stomatal and vein parameters.
CO4	Evaluate quality and purity of crude drugs using physicochemical parameters.
CO5	Collect medicinal plants and prepare voucher specimens during field visits.

Practical Content

Minimum 12 experiments must be performed.

1. Morphological study of medicinal plants (as mentioned in Unit V Theory).
2. Organoleptic evaluation and powder microscopical characters of: Tulsi and Ashwagandha.
3. Organoleptic evaluation and powder microscopical characters of: Amla and Arjuna.
4. Organoleptic evaluation and powder microscopical characters of: Turmeric and Psyllium husk.
5. Organoleptic evaluation and powder microscopical characters of: Brahmi and Fenugreek.
6. Determination of moisture content of crude drugs.
7. Determination of swelling index and foaming index of crude drugs.
8. Determination of stomatal number and stomatal index of leaf.
9. Determination of vein islet and vein termination number of leaf.
10. Determination of ash value and extractive values of crude drugs.
11. Determination of foreign organic matter of crude drugs.
12. Determination of dimensions of calcium oxalate crystals and phloem fibers by eyepiece micrometry.
13. Determination of percentage purity of powder drug using lycopodium spore method.

14. Experiential learning – collection, identification of medicinal plant material, preparation of voucher specimens and excursion visits to medicinal plant garden.

Text Books

1. Evans, W.C. (2009). Trease and Evans Pharmacognosy. 16th ed. London: W.B. Saunders & Co.
2. Tyler, V.E., Brady, L.R. and Robbers, J.E. (1988). Pharmacognosy. 9th ed. Philadelphia: Lea & Febiger.
3. Wallis, T.E. Textbook of Pharmacognosy. London: J. & A. Churchill Ltd.

Reference Books

4. WHO Quality control methods for medicinal plant materials. Geneva: WHO.
5. WHO Guidelines on GACP for medicinal plants. Geneva: WHO.

ICT / MOOCs Reference

6. NPTEL – Pharmacognosy laboratory techniques
7. WHO traditional medicine e-resources

Mapping of CO with PO and PSO:	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PEO1	PEO2	PEO3	PEO4	PEO5
CO1	2	1	1	-	1	-	-	-	-	1	1	2	1	-	-	1
CO2	2	1	2	-	1	-	-	-	-	1	1	2	2	-	-	1
CO3	2	2	1	-	1	-	-	-	-	1	1	2	2	-	-	1
CO4	3	3	3	-	1	-	-	-	-	1	1	2	2	-	-	1
CO5	2	2	2	-	1	-	-	-	-	1	1	2	2	-	-	1