

Curriculum Planner
(Department of Botany, Kalindi College)
Dr. Priyanka Verma (2025-2026)

Course: B.Sc. Life Science

Semester: I

Paper: Plant Diversity and Systematics (Practical)

Topic	Reference	Approximate (schedule)
Practical component: 1. Viruses: EM of TMV and Bacteriophage, Specimens of virus infected plants (any two). 2. Bacteria: EM of a bacterium, types through permanent slides/photographs, specimens of infected plants (any two). 3. Algae: Study of vegetative and reproductive structures of (a) Nostoc (b) Volvox (c) Spirogyra through temporary preparations and permanent slides. 4. Fungi: Study of vegetative and reproductive structures of (a) Rhizopus, (b) Penicillium, and (c) Agaricus through temporary preparations and permanent slides/specimens/photographs. 5. Lichens: Crustose, Foliose and Fruticose (specimens/photographs). 6. Bryophytes: Study of (a) Marchantia morphology of thallus, W.M. rhizoids and scales, V.S. thallus through gemma cup, W.M. gemmae (all temporary slides), V.S. antheridiophore, archegoniophore, L.S. sporophyte (all permanent slides), (b) Funaria: detailed study and classification from W.M. rhizoids, operculum, peristome, spores and permanent slides of archegonia, antheridia and capsule. 7. Pteridophytes: Study of Pteris: T. S. of Rachis, V.S. of Sporophyll and W.M. of sporangium. 8. Gymnosperms: Study of Pinus morphology of long & dwarf shoot, male and female cones (specimens) and T.S. of needle (permanent slides only). 9. Herbarium technique (Mounting of a properly dried and pressed	1. Alexopoulos, C.J., Mims, C.W., Blackwell, M. (1996). Introductory Mycology, 4th edition. Singapore, John Wiley and Sons (Asia). 2. Kumar, H.D. (1999). Introductory Phycology, 2nd edition. Delhi, Delhi: Affiliated East-West. Press Pvt. Ltd. 3. Bhatnagar, S.P., Moitra, A. (1996). Gymnosperms. New Delhi, Delhi: New Age International (P) Ltd Publishers. 4. Parihar, N.S. (1991). An introduction to Embryophyta. Vol. I. Bryophyta. Prayagraj: U.P.: Central Book Depot. 5. Pelczar, M.J. (2001). Microbiology, 5th edition. New Delhi, Delhi: Tata McGraw-Hill Co. 6. Tortora, G.J., Funke, B.R., Case. C.L. (2007). Microbiology. San Francisco, U.S.A: Pearson Benjamin Cummings. 7. Raven, P.H., Evert, R.F., Eichhorn, S.E. (1999). Biology of Plants. New York, NY: W.H. Freeman and Company Worth Publishers. 8. Sethi, I.K. and Walia, S.K. (2018). Text	August 2025- December 2025

specimen of any wild plant on the herbarium sheet with complete herbarium label). 10. Taxonomic study of characters of 1 plant from each of the following families (any four):Malvaceae, Solanaceae, Asteraceae, Fabaceae, and Liliaceae.	book of Fungi and Their Allies. (2nd Edition), Medtech Publishers, Delhi. 9. Vashishta, P.C., Sinha, A.K., Kumar, A. (2010). Pteridophyta. New Delhi, Delhi: S. Chand & Co Ltd.	
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