

MDC- BOT- 01/02/03 (INTRODUCTORY BOTANY)

- **Total Credits: -03**
- **Total teaching Hours: 45**
- **Total Marks: 75**
- **End Semester University Examination: 75 Marks**

Course objectives:

1. Promote understanding of basic principles of Botany.
2. Encourage learning of emerging knowledge and its relevance to individual and society.
3. Promote rational/scientific attitude towards issues related to population, environment and development.
4. Appreciate that the most complex biological phenomena are built on essentially simple processes.

Course Outcome:

1. The students would get an exposure to various branches of Botany in the curriculum in a more contextual and systematic manner as they study its various units.

Unit 1: Morphology of Angiospermic Plants: General account and modification of flowering plants; Root, Stem, Leaf, Flower, Fruit and Seed. (7 Lectures)

Unit 2: Cell the unit of life: Prokaryotic & Eukaryotic cell; Structure and function of cell organelles; Plastids, Mitochondria, Ribosome & Nucleus. (7 Lectures)

Unit 3: Anatomy of Angiospermic Plants: Classification & function of simple and complex tissue. General account of dicots and monocots (root & stem). (7 Lectures)

Unit 4: Ecology and Environment: Ecosystem; Structure, function & components; Energy flow, Fresh water & Forest ecosystem. Pollution; Air & water pollution and its control. Greenhouse effect, Ozone layer depletion. (8 Lectures)

Unit 5: Biodiversity: Concept & levels, biodiversity conservation strategies; in-situ- National parks & Biosphere reserve; Ex-situ- Botanical gardens & Seed bank. (8 Lectures)

Unit 6: Economic Botany: General account & importance; Cereals (Rice, wheat & Maize) Pulses (Gram, Pea & Lentil) Timber (Sal, Teak & Sissoo) Medicinal Plants (Neem, Kalmegh & Ashwagandha). (8 Lectures)

Suggested Readings:

1. Ganguli, H.C. Das, K.S.K. & Dutta, C.T. College Botany, Vol. I, latest Ed., New Central Book Agency
2. Ganguli, H.C. and Kar, A.K. College Botany, Vol. II, latest Ed., New Central Book Agency
3. Sen, S. 1992. Economic Botany, New Central Book Agency, Kolkata.
4. Verma, V. 1974. A Textbook of Economic Botany, Emcay Publication, New Delhi.
5. Bendre, A., Kumar, A. Economic Botany, Rastogi Publication, New Delhi. India
6. Pandey, B.P. Plant Anatomy, Latest Ed., S. Chand & Company.