

MLD: BASIC BOTANY

Total Credit: 3

Hours: 4

Course Objective and Outcome: This course will provide an understanding on plant cells, major plant groups and plant ecology and diversity. On successful completion of the course, students will be able to understand – the cell and its types with emphasis on plant cells; the major groups of plants; the concept of ecology and biodiversity and the importance of plants and their role in human life.

Unit Topics

Unit I Cell and Anatomy: Introduction to cell and its types - Prokaryotes and Eukaryotes; Study of plant cells; Introduction to tissues - simple and complex; Study of Leaf - monocot and dicot; Structure and function of flower

Unit II Ecology and Plant Diversity: Five Kingdom concept; Study of major groups - Bacteria, Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperm and Angiosperm (only general characteristics)

Concepts of ecology; Structure and function of ecosystem; Trophic organization - food chain and food web; Ecological pyramid; Ecosystem types in India; Case study of any one of the following in relation to Andaman and Nicobar Islands - forest ecosystem, aquatic ecosystem (marine or freshwater) and mountain ecosystem. Concept of biodiversity hotspot

Unit III Plants and Human Affairs: Important vascular plants and products used as food, textiles and medicines, oils and perfumes; Spices of Andaman & Nicobar Islands; Study of harmful plants; Advantages and disadvantages of genetically modified plants

Reading List

1. Campbell NA, Reece JB (2008) Biology, 8th edition, Pearson Benjamin Cummings, San Francisco.
2. Evert RF, Eichhorn SE (2012) Raven Biology of Plants, 8th edition, New York, NY: W.H. Freeman and Company.
3. Singh V, Pandey PC, Jain DK (2001) A Text Book of Botany. Meerut, UP: Rastogi and Co.
4. Odum EP (2005) Fundamentals of ecology. Cengage Learning India Pvt. Ltd., New Delhi.

The edition. Ambast and Ambast (2002) A text book of Plant Ecology. CBS publisher and Distribut